

October 31, 2007 .

Analytical Report for Service Request No: K0709913

Larry Gentile Longview Fibre Paper & Packaging Inc 5901 East Marginal Way South Seattle, WA 98124

RE: Seattle Groundwater/Wastewater

Dear Larry:

Enclosed are the results of the samples submitted to our laboratory on October 24, 2007. For your reference, these analyses have been assigned our service request number K0709913.

All analyses were performed according to our laboratory's quality assurance program. Where applicable, the methods cited conform to the Methods Update Rule (effective 4/11/2007), which relates to the use of analytical methods for the drinking water and waste water programs. The test results meet requirements of the NELAC standards. Exceptions are noted in the case narrative report where applicable. All results are intended to be considered in their entirety, and Columbia Analytical Services; Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3291. You may also contact me via Email at EWallace@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Ed Wallace

Project Chemist

EW/lb

Page 1 of



660 **68 69** 5

NELAP Accredited

ACIL Seal of Excellence Award

👸 100% Recycled

Acronyms

ASTM American Society for Testing and Materials

A2LA American Association for Laboratory Accreditation

CARB California Air Resources Board

CAS Number Chemical Abstract Service registry Number

CFC Chlorofluorocarbon
CFU Colony-Forming Unit

DEC Department of Environmental Conservation

DEQ Department of Environmental Quality

DHS Department of Health Services

DOE Department of Ecology
DOH Department of Health

EPA U. S. Environmental Protection Agency

ELAP Environmental Laboratory Accreditation Program

GC Gas Chromatography

GC/MS Gas Chromatography/Mass Spectrometry

LUFT Leaking Underground Fuel Tank

M Modified

MCL Maximum Contaminant Level is the highest permissible concentration of a

substance allowed in drinking water as established by the USEPA.

MDL Method Detection Limit
MPN Most Probable Number
MRL Method Reporting Limit

NA Not Applicable
NC Not Calculated

NCASI National Council of the Paper Industry for Air and Stream Improvement

ND Not Detected

NIOSH National Institute for Occupational Safety and Health

PQL Practical Quantitation Limit

RCRA Resource Conservation and Recovery Act

SIM Selected Ion Monitoring

TPH Total Petroleum Hydrocarbons

Trace level is the concentration of an analyte that is less than the PQL but greater

than or equal to the MDL.

Inorganic Data Qualifiers

- The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- i The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.

Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- B The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
- i The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.
- * The duplicate analysis not within control limits. See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- i The MRL/MDL has been elevated due to a chromatographic interference.
- X See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- L The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

0003

Columbia Analytical Services, Inc. Kelso, WA State Certifications, Accreditations, and Licenses

Program	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Colorado DPHE	-
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DHS	WA200001
South Carolina DHEC	61002
Utah DOH	COLU
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-







- Cover Page - INORGANIC ANALYSIS DATA PACKAGE

Client:

Longview Fibre Paper & Packaging Inc

Project Name:

Seattle Groundwater/Wastewater

Project No.:

NA

Service Request: K0709913

Sample Name:

Decant #1 Method Blank Lab Code:

K0709913-003 K0709913-MB

Comments:

Analytical Report

Client: Project Name: Longview Fibre Paper & Packaging Inc

Project No.: Matrix:

Seattle Groundwater/Wastewater NA Water

Service Request: K0709913

Date Collected: 10/22/07 Date Received: 10/24/07 Date Extracted: 10/26/07

Total Metals

Units: ug/L (ppb)

Analyte: EPA Method: Copper 6010B 10

Zinc 6010B

Method Reporting Limit:

10

Date Analyzed:

10/30/07

10/30/07

Sample Name

Lab Code

Decant #1 Method Blank K0709913-003 K0709913-MB 221 ND 184 ND

Comments:

Analytical Results

Client:

Longview Fibre Paper & Packaging Inc

Project:

Seattle Groundwater/Wastewater

Sample Matrix:

Water

Service Request: K0709913

Date Collected: 10/22/2007

Date Received: 10/24/2007

Diesel and Residual Range Organics

Sample Name:

North Parking Lot

Lab Code:

K0709913-001

Units: ug/L Basis: NA

Extraction Method:

EPA 3510C

Level: Low

Analysis Method:

NWTPH-Dx

Analyte Name Diesel Range Organics (DRO) Residual Range Organics (RRO) Result Q 2300 Y 1800 L

MRL 300 590

Factor 1 1

Dilution

Extracted Analyzed 10/26/07 10/26/07

Date

10/27/07 10/27/07

Date

Lot KWG0711656

Extraction

KWG0711656

Note

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note	
o-Terphenyl	110	50-150	10/27/07	Acceptable	
n-Triacontane	116	50-150	10/27/07	Acceptable	

Comments:

Printed: 10/30/2007 16:48:28

ur\Stealth\Crystal.rpt\Form1m.rpt

Merged

Form 1A - Organic

SuperSet Reference:

Analytical Results

Client:

Longview Fibre Paper & Packaging Inc

Project:

Seattle Groundwater/Wastewater

Sample Matrix:

Water

Service Request: K0709913

Date Collected: 10/22/2007

Date Received: 10/24/2007

Diesel and Residual Range Organics

Sample Name:

West Parking Lot

Lab Code:

K0709913-002

Units: ug/L Basis: NA

Extraction Method:

EPA 3510C

Analysis Method:

Level: Low

NWTPH-Dx

			Dilution	Date	Date	Extraction	
Analyte Name	Result Q	MRL	Factor	Extracted	Analyzed	Lot	Note
Diesel Range Organics (DRO)	20000 Y	320	1	10/26/07	10/27/07	KWG0711656	
Residual Range Organics (RRO)	4700 L	630	1	10/26/07	10/27/07	KWG0711656	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Nate
o-Terphenyi	120	50-150	10/27/07	Acceptable
n-Triacontane	138	50-150	10/27/07	Acceptable

Comments:

Printed: 10/30/2007 16:48:29

u:\Stealth\Crystal.rpt\Form1m rpt

Merged

Form 1A - Organic -

SuperSet Reference:

1 of 1 Page

Analytical Results

Client:

Longview Fibre Paper & Packaging Inc

Project:

Seattle Groundwater/Wastewater

Sample Matrix:

Water

Service Request: K0709913

Date Collected: NA Date Received: NA

Diesel and Residual Range Organics

Sample Name:

Method Blank

Lab Code:

KWG0711656-3

Units: ug/L Basis: NA

Extraction Method:

EPA 3510C

Level: Low

Analysis Method:

NWTPH-Dx

Analyte Name
Diesel Range Organics (DRO)
Residual Range Organics (RRO)

Result Q ND U ND U MRL 250 500

Date Factor Extracted Analyzed 1 10/26/07 1 10/26/07

Dilution

10/27/07 10/27/07

Date

Lot KWG0711656 KWG0711656 Note

Extraction

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	107	50-150	10/27/07	Acceptable
n-Triacontane	126	50-150	10/27/07	Acceptable

Comments:

Printed: 10/30/2007 16:48:29

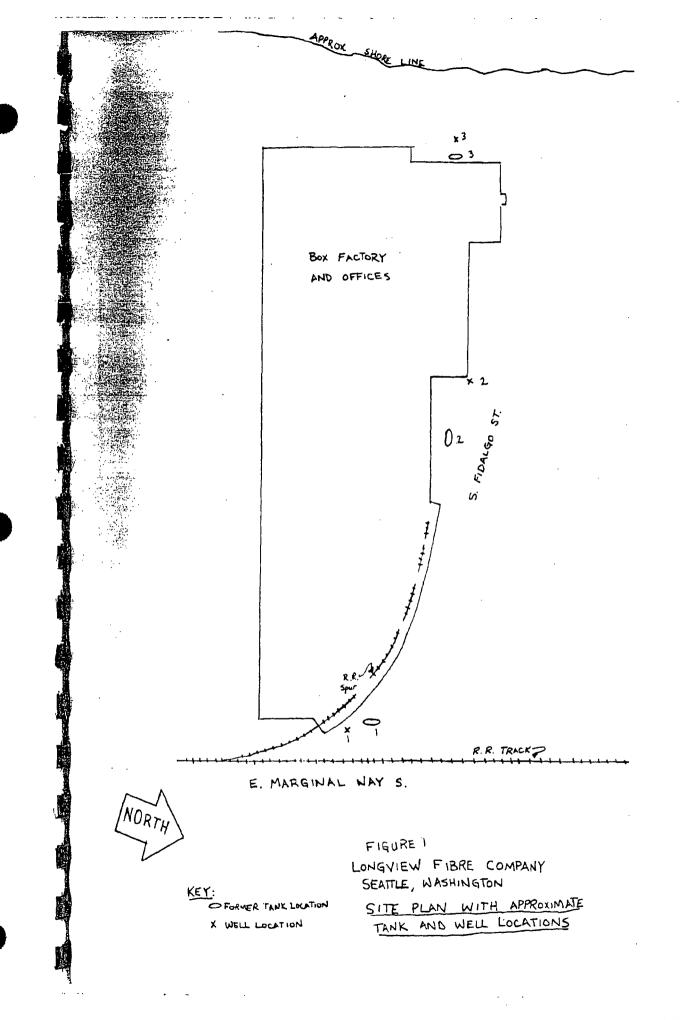
u:\Stealth\Crystal.rpt\Form\m rpt

Merged

Form 1A - Organic

SuperSet Reference:

Page 1 of 1



Columbia Analytical				CH	łΑί	N (OF	С	US	TC	ODY SR#:					#:	16769913 _coc#								
Services NC. An Employee - Owned Company 13	17 South 13	h Ave. • Køl	so. WA 98	8626 •	(360)	577-72	22 • ((800) E	95-722	22x07	• FAX	(360)	636-10	068	P	AGE	: <u> </u>		OF		<u> </u>	_co	C #		0
		TER /L				7	<u></u> '	7	BIEXO	7	7	7	7	10	7	7	7	T · ,	/ ,	/ .	I_{n}	/	<i>T</i>		图
PHOJECT MANAGER COMPANYADDRESS COMPANYADDRES	2000	Dw.z			$\exists_{\mathscr{E}}$	$\int_{\mathbb{R}^2} dt$			BIE		8	Q Loc		D 8151A[ا ا	1905			//	
STOL EAST MARGI	Nac le		INC	·	TAINE		Sanica Organica Organica	> /			1,000		8 63	15 12 E	OMIS	Solved	Hex-Chion		10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		3/			/ /	
E-MAIL ANDOCCO	61 94	Cinn			OFCONTAINERS		\$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$) See Se	HCID Screen			80814 Cides	3000 E	2000	> <i>></i> 1	,,,	186, 186, 186, 186, 186, 186, 186, 186,	. (a) (a) (a) (a) (a) (a) (a) (a) (a) (a)	P I	/ /	/ /	/ /		
SAMPLEITS GENTATURE	206	-767-	2442	NUMBER		emirolatii		Hydrocam 1 1 1 1 1 1 1 1 1	THE THE		4.08 S. 18.04	Pesticides/		PAHS Tella 8151W	Metals, 70		T PES SA	$\kappa \kappa$		0205					
SAMPLE I.D. DATE	TIME	LAB I.D.	MATRIX	7 2		(S)	72.8	TI	100	<u>/ o </u>	\ <u>a</u> \.	\4.8	OF	(4)	20	<u> </u>	<u> </u>	2	<u> </u>		<u> </u>			REMA	RKS
NELTEN PARKING-LOS 722/07	3:457			1	χ.			1													_				<u> </u>
WEST PARKULLET 1922/01	3:30P			\top				1																	
					di.																				
DECANT#1 192/01	11:12A			\Box	*										1									Cit is	2.J
				<u> </u>				ļ			L									<u> </u>	ļ	ļ			
					1 1 1																				
	<u> </u>				-15							_	_												
					136																	<u> </u>			
	100/6	NOT INFOR						L							لــــــا					<u> </u>	<u> </u>		<u> </u>	<u> </u>	
REPORT REQUIREMENTS	P.O. # _	ICE INFOR	MATION	'		which																		./	~ `\
I. Routine Report: Method	Bill To:																							Sn V/Zn	
Blank, Surrogate, as required					Dissol	ved Met	als: A	As	Sb B	а Ве	B Ca	a Cd	Ço	Cr Cı	J Fe	Pb I	Mg M	In Mo	Ni —	K Ag	Na 	Se S	Sr TI	Sn V Zr	n Hg
II. Report Dup., MS, MSD as						ICATE							DURE	: AK	CA	WI	NO	RTHW	EST	ОТН	ER:		_(CIA	CLE ONE)
required	TURNAR	OUND REC	48 hr.	ENIS	SPE	CIAL II	VSTR	UCTIO	ONS/C	MMO	ENTS	:													
III. Data Validation Report	5 D		- 40 III.	i																					
(includes all raw data)			working o	days)																					I
IV. CLP Deliverable Report	Pro	vide FAX Re	sults																						!
V. EDD	Re	quested Rep	ort Date																						
RELINQUISHED BY:	7 0430		1	•	IVED			3.02				REL	INGL	JISHE	D BY:						RE	CEIV	ED BY	;	
Signature Date Date Time		Signa		nci		ate/Tir	/47 ne 15	w		_	nature			_	te/Tim	10			Signature Date/Time						
Printed Name Firm		Pinle	d Name		F	irm				Prin	ted N	ame		Fir	m				Printe	ed Nar	ne		Firm	RCOC #	1 06/03

Columbia Analytical Services, Inc. Cooler Receipt and Preservation Form

PC (1)

Client / Project: (mynaw h)	u				Servi	ce Reg	juest <i>K0</i>	709	9/3	2		
Received: 18/24/17	Opened:	10/2	4/12	I	Зу:	VX.	aL		,			
1. Samples were received via?	US Mail	Fed Ex	UPS	. <	DHL	GH	GS	PDX	Couri	er .	Hand De	elivered
2. Samples were received in: (circ	:le) 'S	ooter B	lox	Enve	lope	Oth	er				NA	
3. Were custody seals on coolers?	' '	IA 😡	N	If	yes, how	v many	and when	re?	1-81	'des		
If present, were custody seals in	ntact?	Ð	- N		If prese	nt, wer	e they sig	ned and da	ited?		(F)) N
4. Is shipper's air-bill filed? If no	t, record air	-bill number:			<u>-i</u> -		· ·		· · ·	NA	Y	N
5. Temperare of cooler(s) upo	n receipt (°	 C):	3.6					<u></u>				
Temper ar Plank (°C):			5.0									
6. If applicable st Chain of Custo	ody Numbe	rs: _										
7. Were custody aper properly f	illed out (in	k, signed, etc	.)?						_	NA	\bigcirc	N
8. Packing material unit Insel	rts Bub	ble Wrgp	Gel Pa	cks)	Wet Ic	e 5	Sleeves	Other_				
9. Did all bottles arriven good o	ondition (c	inbroken)?	Indicate	e in the	e table be	elow.				NA	\bigcirc	N
10. Were all sample labels complet	e (i.e analys	sis, preservati	on, etc.)	?								N
11. Did all sample labels and tags a	gree with c	ustody papers	? Indic	ate in	the table	beiow					\mathfrak{O}	N
12. Were the correct types of bott	les used for	r the tests in	dicated	?						NA	φ	N
13. Were all of the preserved bottle	s received a	it the lab with	the app	ropria	te pH? <i>I</i> .	ndicase	in the ta	ble below		NA	\mathcal{Q}	N
14. Were VOA vials and 1631 Mere	cury bottles	checked for	absence	of air	bubbles?	Indic	ate in the	table belor	N.		Y	И
15. Are CWA Microbiology samp	les received	d with >1/2 t	he 24hr	. hold	time rer	nainin	g from co	ollection?		(N.A.)	Y	N
16. Was C12/Res negative?										NA	Y	И
3.				1				1			·····	
Sample ID on Bottle	Samp	ole ID on COC			Sample	e ID on	Bottle	1	Sam	ple ID o	n COC	
				一								
				1								
								1	1,,,,			
						1						
Sample ID	Bottle Count	Bottle Type	Out of Temp		Broken	На	. Reads		ume ded	Reagen		Initials
												
Additional Notes, Discrepancies, c	& Resoluti	ons:										
, = 								· · · ·				
											004	4
											001	<u>.</u>

- Cover Page -INORGANIC ANALYSIS DATA PACKAGE

Client : Project Name : Project No. :	Longview Fibre Paper & Packaging Inc Seattle Groundwater/Wastcwater NA	Service Request: K0709913
	Sample Name : Decant #1 Method Blank	<u>Lab Code:</u> K0709913-003 K0709913-MB
	· .	.
-		
		·
	•	
·	·	
Comments:		

Analytical Report

Client:

Longview Fibre Paper & Packaging Inc Seattle Groundwater/Wastewater

Service Request: K0709913 Date Collected: 10/22/07

Project Name : Project No. :

NA

Date Received: 10/24/07

Matrix:

Water

Date Extracted: 10/26/07

Total Metals Units: ug/L (ppb)

Analyte:

Zinc

EPA Method: Method Reporting Limit: Copper 6010B 10

6010B 10

Date Analyzed:

10/30/07

10/30/07

Sample Name

Lah Code

Decant #1 Method Blank K0709913-003 K0709913-MB 221 ND 184 ND

Comments:

Analytical Results

Client:

Longview Fibre Paper & Packaging Inc

Project:

Seattle Groundwater/Wastewater

Sample Matrix: Water

Extracted

l

1

- Service Request: K0709913

Date Collected: 10/22/2007 Date Received: 10/24/2007

Diesel and Residual Range Organics

Sample Name:

North Parking Lot

Lab Code:

K0709913-001

Units: ug/L Basis: NA

Extraction Method:

EPA 3510C

Level: Low

Let

Note

Analysis Method:

NWTPH-Dx

Dilution Date Date Extraction Factor Analyzed

Analyte Name Diesel Range Organics (DRO) Residual Range Organics (RRO)

MRL Result Q 2300 Y 300 1800 L 590

KWG0711656 10/26/07 10/27/07 KWG0711656 10/26/07 10/27/07

Control Date Surrogate Name %Rec Limits Note Analyzed o-Terphenyl 110 50-150 10/27/07 Acceptable n-Triacontane 116 50-150 10/27/07 Acceptable

Comments:

Printed: 10/30/2007 16:48:28

u 'Stealth'Crystal (pt'Formling)t

Merged

Form 1A - Organic

SuperSet Reference: RR78988

of 1 Page

LFC002087

Analytical Results

Client:

Longview Fibre Paper & Packaging Inc

Project:

Seattle Groundwater/Wastewater

Sample Matrix: Water Service Request: K0709913

Date Collected: 10/22/2007 Date Received: 10/24/2007

Diesel and Residual Range Organics

Sample Name:

West Parking Lot

Lah Code:

K0709913-002

Units: ug/L Basis: NA

Extraction Method:

EPA 3510C

Analysis Method:

NWTPH-Dx

Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	20000 Y	320	1	10/26/07	10/27/07	KWG0711656	
Residual Range Organics (RRO)	4700 L	630	1	10/26/07	10/27/07	KWG0711656	

Surrogate Name	%Ruc	Control Limits	Date Analyzed	Note
-Terphenyl	120	50-150	10/27/07	Acceptable
n-Triacontane	138	50-150	10/27/07	Acceptable

Comments:					

Printed: 10/30/2007 16:48:29

u SteakhiCrystal mWomilin m

Merged

Form 1A - Organic

SuperSet Reference:

Page | 00 |

RR78988

LFC002088

Analytical Results

Client:

Longview Fibre Paper & Packaging Inc

Project: Sample Matrix: Seattle Groundwater/Wastewater

Water

Service Request: K0709913

Date Collected: NA Date Received: NA

Diesel and Residual Range Organics

Sample Name:

Method Blank

Lah Code:

KWG0711656-3

EPA 3510C

Units: ug/L

Basis: NA

Level: Low

Extraction Method: Analysis Method:

NWTPH-Dx

Dilution Date Date Extraction MRL Analyte Name Result Q Factor Lot Note Extracted Analyzed Diesel Range Organics (DRO) KWG0711656 ND U 250 1 10/26/07 10/27/07 Residual Range Organics (RRO) ND U 500 KWG0711656 10/26/07 10/27/07

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	107	50-150	10/27/07	Acceptable
n-Triacontane	126	50-150	10/27/07	Acceptable

Comments:		
-----------	--	--

Printed: 10/30/2007 16:48:29

u \Stealth\Crystal (pt\Form\hi) and

Merged

Form 1A - Organic

SuperSet Reference.

Page 1 of 1

RR78988

LFC002089

	Columbia Analytical					CH	Al	IN	OF	C	US	STO)D	Y								SR	#:			·
	Services NG. An Employee - Owned Company	13	17 South 13th	Ave. • Køls	o, WA 98	8626 •	(360)	577-72	222 • (800) (695-72	22x07	• FAX	(360)	636-10	068	F	PAGE	:		OF			CO	C #	
E	PROJECT NAME SEATTLE PROJECT NUMBER		LINDWA		AS1E1					7	BIEX	\mathcal{J}^-	7	7	/	815140	7	7	7	7	/ % /		2000/	7	7	777
		-185E			INC.		WERG -		24 GC/48		n/\bar{s}		1664 83	D196 /		14 O B.							~ 1			
-)A. 9	NALLUA BI 94 Fibre. e	7		$\overline{}$	FCONTAINERS	/ ://	27.08 27.08 8.00 8.00 8.00 8.00 8.00 8.00 8.00		el F. Diesel G. See Delo	Screen (FIO)	TABLE FOR		A Cides	10 8 10 10 10 10 10 10 10 10 10 10 10 10 10	Sino Cini		Hex-Chros	7.884. P. 24. P.	NOTAL DIGICAL	\$ \frac{1}{2} \fra	/ /	/ /	/ /	/ /
	PHONE 106 - 76-71; SAMPLER SCHONATURE	$\overline{}$	206-	-767-2		NUMBEO		emivolatile 625 olatile	Volaiile Or 8270 827		Fuel F	SALE SALES	P.CB'S HEM!	Sticides (Choropie A	PAHS Tela D PSIM	Metals, To	Cyanid of the Co		S 100						
L	SAMPLE I.D.	DATE		LAB I.D.	MÁTRIX /	/ > 1	<u> </u>	/ °	/_%	[T	5/~C	70	\0.4	/ 8	10%	1 2	26	7 5	۱۹ ۱	>	/ ~	/ -		/	 -	REMARKS
-	NOKTH PARKING LOT	722/07	3:457	- 		1	<u>)</u> -												-							
	WEST PARKUE LOT	10/22/01	3:307			T	- 12			1																
+	DEGAT#1	192/07	11:12A			1											1									TEST FOR
-												-		L												
Į							7																			
Į							ी; प्र <u>विशेष</u>	· 			<u> </u>	ļ						<u> </u>			ļ	ļ				
+			INVOI	CE INFORM	AATION						<u> </u>				<u></u>							<u> </u>	<u> </u>	لـــا		<u> </u>
1	REPORT REQUIREM	ENTS	BO#						metals				n 0.	٠	^ - 4	a. 6.)	n	4- 14		A.C	l/ A	Al-	c- c	·- T1	s- v/22
	I. Routine Report: I Blank, Surrogate		BIII To: _	<u></u>		_										-										Sn V Zn Ag Sn V Zn Ag
1	required						IND	ICATE	STA	ſΕ Η\	/DRO	CARB	ON PF	ROCE	DURE	: AK	CA	WI	NO	THW	EST.	ОТН	ER:		(CIR	CLE ONE)
	II. Report Dup., MS, required		TURNARO 24 hr	UND REQU	48 hr.	ENTS	SPE	CIAL I	NSTR	UCTI	ONS/0	COMM	ENTS	:												·
	III. Data Validation F (includes all raw		5 Da		vorking d	days)																				
	IV. CLP Deliverable	Report	Standard (10-15 working days) ort Provide FAX Results																							
	V. EDD Requested Report Date																									
	RELINQUIS	IOD 3/0	1 043C			RECE	IVED	BY:						REI	INQL	JISHEI	D BY:			T			RECEIVED BY:			
	Signature	Date/Time	<u> </u>	Signati	ure		_ D	ate/Ti	ne		-	Sig	nature			Da	te/Tin	ne			Signa	ature			Date/	/Time
- 1	Printed Name	Firm		Printed	Namo		F	irin			-	Prin	ited N	ame		- Fir	m				Printe	ed Na	me		Firm	



October 20, 2006

Service Request No: K0608374

Mike Anderson Longview Fibre Paper & Packaging Inc 5901 East Marginal Way South Seattle, WA 98124

RE: Seattle Groundwater

Dear Mike:

Enclosed are the results of the sample(s) submitted to our laboratory on September 29, 2006. For your reference, these analyses have been assigned our service request number K0608374.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAC standards. Exceptions are noted in the case narrative report where applicable. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3291. You may also contact me via Email at EWallace@kelso.caslab.com.

Respectfully submitted.

Columbia Analytical Services, Inc.

Ed Wallace

Project Chemist

EW/lmb

Page 1 of

Acronyms

ASTM American Society for Testing and Materials

A2LA American Association for Laboratory Accreditation

CARB California Air Resources Board

CAS Number Chemical Abstract Service registry Number

CFC Chlorofluorocarbon
CFU Colony-Forming Unit

DEC Department of Environmental Conservation

DEQ Department of Environmental Quality

DHS Department of Health Services

DOE Department of Ecology
DOH Department of Health

EPA U. S. Environmental Protection Agency

ELAP Environmental Laboratory Accreditation Program

GC Gas Chromatography

GC/MS Gas Chromatography/Mass Spectrometry

LUFT Leaking Underground Fuel Tank

M Modified

MCL Maximum Contaminant Level is the highest permissible concentration of a

substance allowed in drinking water as established by the USEPA.

MDL Method Detection Limit
MPN Most Probable Number
MRL Method Reporting Limit

NA Not Applicable
NC Not Calculated

NCASI National Council of the Paper Industry for Air and Stream Improvement

ND Not Detected

NIOSH National Institute for Occupational Safety and Health

PQL Practical Quantitation Limit

RCRA Resource Conservation and Recovery Act

SIM Selected Ion Monitoring

TPH Total Petroleum Hydrocarbons

tr Trace level is the concentration of an analyte that is less than the PQL but greater

than or equal to the MDL.

Inorganic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- i The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.

Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- B The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
- i The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.
- * The duplicate analysis not within control limits. See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

- The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- i The MRL/MDL has been elevated due to a chromatographic interference.
- X See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y
 The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

0003

CHAIN OF CUSTODY

SR#:	166083	7 L	1
		. (

An Employee - Owned Company	13	17 South 13t	h Ave. • Ke	lso, WA 98	3626	(360)	577-72	22 • ((800) 8	95-722	22x07	• FAX	(360) 6	36-10	68	Р	AGE			OF			CO	C #_		
PROJECT NUMBER		l water						. : /	/	BTEXO	7	7		7	87574	7	7	7	7	/ .si /	7	2005	7	7		7 \$
COMPANY/ADDRESS LONG VIEW FLORE	Paper	+ Pack	egina			7 #	2	100 m		_ /_		188.89	Pesticides/H. Congener		A []				Bob 1. 50, PO 1. COD 1. 1054. F. NO	2 3 - 3 3 3 3 3 3 3 3 3					//	
			South			CONTAINER	/ ;	18.00 (S.00)	جُ الْ	See Delow	III GUALLO STITUTO III	E-	"gener)des/	1518	SIMIS	Sison, Mossic	Hex-Chion	20 P	24年7	\$ 16.5°			/ ,	/ /	
PHOSE TO THE PHOSE		ngfibr	767-			δ. ()					Cio Screen			208.48 14.00 16.00		2370 []			0.00 0.00 0.00	() () () () () () () ()		/ /	' /			
SAMPLE I.D.	DATE	TIME		MATRIX	NUMBE		Semivolatile		T Solo	J. Fuel	1 8 G. 10 S.	2) S	esticia 08776	1 8 0 E	AHS.	Metals, Total SIM [1 5 × 1 × 1 × 1 × 1 × 1 × 1 × 1 × 1 × 1	N		3/				REMA	ARKS
11 11 12	9/2/	6.35	LAB I.D.	IMATRIA	<u> </u>	il ili	\leftarrow	/		$\widetilde{}$	$\overline{}$	/ - V	/ °/									┤─	/	 		
North parking	726/04	po	1		!_	#																<u> </u>	-		<u> </u>	
West parking		6:40pm			1	ं			1																	
Loft	<u> </u>																-					<u> </u>			ļ	
																			<u> </u>			.	<u> </u>	<u> </u>		
<u> </u>						450																├	-	ļ		
						Y: 3																ļ		ļ		
																					L				<u> </u>	
		<u> </u>							<u> </u>		L		1		<u> </u>						<u> </u>	<u> </u>		<u> </u>	<u> </u>	
REPORT REQUIREM	ENTS	1	ICE INFOR		1	Circle	which	metals	are to	be ana	dyzed:															1
I. Routine Report: I	Method					То	tal Meta	als: Al	As	Sb B	a Be	ВСа	Cd	Co (Cr Cu	ı Fe	Pb N	/lg M	n Mo	Ni	K Ag) Na	Se S	ir TI	Sn V Zr	n Hg
Blank, Surrogate	, as	i				Disso	lved Met	als: Al	As	Sb B	а Ве	в Са	Cd	Co (Cr Cı	ı Fe	Pb I	vig M	ln Mo	Ni	K Aç	g Na	Se S	Sr TI	Sn V Z	n Hg
required	1100					IND	ICATE	STA	TE HY	DRO	CARB	ON PF	ROCEL	DURE	: AK	CA	WI	NO	RTHW	EST	ОТН	IER:_	<u>-</u> _	_(CIF	CLE ONE	=)
II. Report Dup., MS required	, MSD as		OUND REC		ENTS	SPE	CIAL II	NSTR	UCTI	ONS/C	OMM	ENTS	:													j
III. Data Validation F	Report	24		48 hr.																						ļ
(includes all raw	•	5 0	ay :ndard (10-15	working r	lave)																					ŀ
IV. CLP Deliverable	Report	ì	vide FAX Re	_	aayay	1																				l
V. EDD				·																						
<u></u>		Re	quested Rep	ont Date	_/	<u>b</u> _	<i>9</i>			 -										· · ·				. :		
RELINQUIS	HED BY:		/	Le.	HEC		BY:	9/	[27]		00	00	REL	INQU	JISHE	D BY:						RI	CEIV	ED BY	•	
Signature	Date/Time		Sign	The state of the s	$ extit{A}$	YA	ate/Tir	7) 	K	10	Sig	nalure			Da	te/Tim	ne			Signa	ature			Date	/Time	
Printed Name	Firm		Print	ed Name	<u></u>	4/4	irm				Prir	ited N	ame		Fi	m				Printe	ed Na	me		Firm		
																									HCOC #	†1 06/03

	·			oia Analytical Ser Receipt and Pres		Po	c_ <i>B</i>)_		
Pro	ject/Client LV (n ill	Pack	acuna,	Service Request	K06/)8/3	374	-	
Coo	remivation	tsid of	d op	pened on $\frac{q}{29}$	100 by	a. Ja	xll	∅	N
2.	Were custody seals intact						•	\odot	N
2. 3.	Were signature and date p		ne cristady	seals?				$\stackrel{\circ}{(\!$. N
٥. 4.	Is the shipper's airbill av		_		AT"			(Ý)	N
5.	COC#	anaoic and	med. II ik	o, record anom manie				Ġ	,
.	Temperature of cooler(s) upon rec (°C)	eipt: (°C)	14.1					
	Were samples hand delive	red on the s	ame day as	collection?	,			Y	©
6.	Were custody papers prop	erly filled	out (ink, sig	med, etc.)? 1,000	not signed			Y	(8)
7.	Type of packing material	present <u>#</u>	AW N	arm gel pks,	SICCVES				
8.	Did all bottles arrive in g	good condi	tion (unbr	oken)?				Ø	N
9.	Were all bottle labels com	plete (i.e ar	alysis, pre	servation, etc.)?				\mathfrak{O}	N
10.	Did all bottle labels and	tags agree v	vith custod	y papers?				Y	N
11.	Were the correct types of	of bottles u	sed for the	tests indicated?				abla	N
12.	Were all of the preserved	bottles rec	eived at the	lab with the appropri	ate pH?			(Y)	N
13.	Were VOA vials checked	for absence	e of air bub	bles, and if present, n	oted below?			<u>Y</u>	<u> N</u>
14.	Were the 1631 Mercury b	ottles checl	ked for abs	ence of air bubbles, ar	nd if present, noted l	oelow?		-Y	<u></u>
15.	Did the bottles originate f	from CAS/k	or a branc	th laboratory?				Ø 4	- (N)
16.	Are CWA Microbiology	samples re	ceived wit	th >1/2 the 24hr. hold	d time remaining f	rom collection?	•	7	N
17.	Was C12/Res negative?	, s ()	•			1		-Y	_N
Exp Jid	lain any discrepancies:	Added bor	Roof o Sludge	train time Samples	of 1510 to	COC.			
_									
RE:	SOLUTION:							•	
San	nples that required preser	vation or r	eceived o	ut of temperature:				-	
	Sample ID	Reagent	Volume	Lot Number	Bottle Type	Rec'd out of Temperature	Initials		
		 				,			
		 	1	<u> </u>		<u>'</u>			
		 					 		
		 				<u> </u>			
		-							
		 							

00005

Analytical Results

Client:

Longview Fibre Paper & Packaging Inc

Project:

Seattle Groundwater

Sample Matrix:

Water

Service Request: K0608374

Date Collected: 09/26/2006 Date Received: 09/29/2006

Diesel and Residual Range Organics

Sample Name:

North Parking Lot

Lab Code:

K0608374-001

Units: ug/L Basis: NA

Extraction Method:

EPA 3510C

Analysis Method:

Level: Low

NWTPH-Dx

			Dilution	Date	Date	Extraction	
Analyte Name	Result Q	MRL	Factor	Extracted	Analyzed	Lot	Note
Diesel Range Organics (DRO)	2200 Y	250	1	10/09/06	10/10/06	KWG0616956	
Residual Range Organics (RRO)	2200 O	500	1	10/09/06	10/10/06	KWG0616956	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note	
o-Terphenyl	79	50-150	10/10/06	Acceptable	
n-Triacontane	84	50-150	10/10/06	Acceptable	

Comments:

Printed: 10/16/2006 21:26:25 u \Stealth\Crystal.rpt\Form\m.rpt

Merged

Form 1A - Organic

RR64220 SuperSet Reference:

Page] of]

Analytical Results

Client:

Longview Fibre Paper & Packaging Inc

Project:

Seattle Groundwater

Sample Matrix:

Water

Service Request: K0608374

Date Collected: 09/26/2006

Date Received: 09/29/2006

Diesel and Residual Range Organics

Sample Name:

West Parking Lot

Lab Code:

n-Triacontane

K0608374-002

Units: ug/L Basis: NA

Extraction Method:

EPA 3510C

Level: Low

Analysis Method:

NWTPH-Dx

Analyte Name
Diesel Range Organics (DRO)
Residual Range Organics (RRO)

Result Q 30000 DY 4600 O

50-150

87

MRL 1300 500

Factor Extracted 5 10/09/06 10/09/06 1

Date

Dilution

Acceptable

Analyzed 10/10/06 10/10/06

Date

Lot KWG0616956 KWG0616956

Extraction

Note

Current Nove	%Rec	Control	Date	Note	
Surrogate Name	76Ket	Limits	Analyzed	140te	
o-Terphenyl	92	50-150	10/10/06	Acceptable	

10/10/06

Comments:	

Printed: 10/16/2006 21:26:27

u.\Stealth\Crystal.rpt\Form1m rpt

Merged

Form 1A - Organic

SuperSet Reference:

Analytical Results

Client:

Longview Fibre Paper & Packaging Inc

Project:

Seattle Groundwater

Sample Matrix:

Water.

Service Request: K0608374

Date Collected: NA Date Received: NA

Diesel and Residual Range Organics

Sample Name:

Method Blank

Lab Code:

KWG0616956-3

Extraction Method:

EPA 3510C

Units: ug/L

Basis: NA

Level: Low

Analysis Method:

NWTPH-Dx

Analyte Name Result Q Diesel Range Organics (DRO) ND U Residual Range Organics (RRO) ND U

Dilution Date Date Extraction **Factor** Extracted Analyzed Lot Note KWG0616956 10/09/06 1 10/10/06 KWG0616956 1 10/09/06 10/10/06

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	94	50-150	10/10/06	Acceptable
n-Triacontane	100	50-150	10/10/06	Acceptable

MRL

250

500

Comments:

Printed: 10/16/2006 21:26:29

u \Stealth\Crystal.rpt\Form\m rpt

Merged

Form 1A - Organic

SuperSet Reference:

RR64220

00008



Date: 10/17/06

Number of pages including cover sheet: 3

To:	Mike Ar	edeson	From: ED W	JALLALE
Phone:			Phone:	(360) 577-7222
Fax phone: CC:	206-767-	-2442	Fax phone:	(360) 636-1068
REMARKS:	Urgent Urgent	For your review	Reply ASAP	Please comment
	Groun	nd water	Data	

IMPORTANT NOTE:

The documents accompanying this transmission may contain information which is legally privileged and/or confidential. The information is intended only for the use of the individual or entity named above. If you are not the intended recipient, or the person responsible for delivering it to the intended recipient, you are hereby notified that any disclosure, copying, distribution, or use of any of the information contained in this transmission is strictly **PROHIBITED**. If you have received this transmission in error, please immediately notify us by telephone and mail the original transmission to us. Thank you for your cooperation and assistance.

CUDUMDIA AMALY HEAL SERVICES, INC.

Analytical Results

Client:

Longview Fibre Paper & Packaging Inc

Project:

Seattle Groundwater

Sample Matrix:

Water

Service Request: K0608374

Date Collected: 09/26/2006

Date Received: 09/29/2006

Diesel and Residual Range Organics

Sample Name:

North Parking Lot

Lab Code:

K0608374-001

Extraction Method:

Analysis Method:

EPA 3510C

Units: ug/L Basis: NA

Level: Low

NWTPH-Dx

	: _	- 4707	Dilution	Date	Date	Extraction	Moto
Analyte Name	Result Q	MRL	Factor	Extracted	Analyzed	Lot	Note
Diesel Range Organics (DRO)	2200 Y	250	1	10/09/06	10/10/06	KWG0616956	
Residual Range Organics (RRO)	2200 O	500	1	10/09/06	10/10/06	KWG0616956	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	79	50-150	10/10/06	Acceptable
n-Triscontane	84	50-150	10/10/06	Acceptable

Printed: 10/11/2006 13:08:20

urlSicalth/Crystal.cpt/Form1 m.rpt

Merged

Form 1A - Organic

SuperSet Reference; RR64220

Page] of]

Analytical Results

Client:

Longview Fibre Paper & Packaging Inc

Project:

Seattle Groundwater

Sample Matrix:

Water

Service Request: K0608374

Date Collected: 09/26/2006 Date Received: 09/29/2006

Diesel and Residual Range Organics

Sample Name:

West Parking Lot

Lab Code:

K0608374-002

Analysis Method:

Extraction Method: EPA 3510C

NWTPH-Dx

Units: ug/L Basis: NA

Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO) Residual Range Organics (RRO)	30000 DY 4600 O	1300 500	5	10/09/06 10/09/06	10/10/06 10/10/06	KWG0616956 KWG0616956	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note	
o-Terphenyl	92	50-150	10/10/06	Acceptable	
n-Triacontane	87	50-150	10/10/06	Acceptable	

PRELIAN - AMIULION

Printed: 10/11/2006 13:08:24

o SealthCrystal.rptFormIm.rpt

Merged

Form 1A - Organic

SuperSet Reference: RR64220

1 of 1



September 8, 2005

Service Request No: K0503515

Mike Anderson Longview Fibre Company 5901 East Marginal Way South Seattle, WA 98124

RE: Seattle Groundwater

Dear Mike:

Enclosed are the results of the sample(s) submitted to our laboratory on August 31, 2005. For your reference, these analyses have been assigned our service request number K0503515.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAC standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3291.

Respectfully submitted,

Columbia Analytical Services, Inc.

Ed Wallace

Project Chemist

EW/jeb

Page I of



Acronyms

ASTM American Society for Testing and Materials

A2LA American Association for Laboratory Accreditation

CARB California Air Resources Board

CAS Number Chemical Abstract Service registry Number

CFC Chlorofluorocarbon
CFU Colony-Forming Unit

DEC Department of Environmental Conservation

DEQ Department of Environmental Quality

DHS Department of Health Services

DOE Department of Ecology
DOH Department of Health

EPA U. S. Environmental Protection Agency

ELAP Environmental Laboratory Accreditation Program

GC Gas Chromatography

GC/MS Gas Chromatography/Mass Spectrometry

LUFT Leaking Underground Fuel Tank

M Modified

MCL Maximum Contaminant Level is the highest permissible concentration of a

substance allowed in drinking water as established by the USEPA.

MDL Method Detection Limit
MPN Most Probable Number
MRL Method Reporting Limit

NA Not Applicable
NC Not Calculated

NCASI National Council of the Paper Industry for Air and Stream Improvement

ND Not Detected

NIOSH National Institute for Occupational Safety and Health

PQL Practical Quantitation Limit

RCRA Resource Conservation and Recovery Act

SIM Selected Ion Monitoring

TPH Total Petroleum Hydrocarbons

tr Trace level is the concentration of an analyte that is less than the PQL but greater

than or equal to the MDL.

Inorganic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- i The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.

Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- B The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
- i The MRLMDL has been elevated due to a matrix interference.
- X See case narrative.
- * The duplicate analysis not within control limits. See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

- * The result is an outlier. See case narrative
- # The control limit criteria is not applicable. See case narrative.
- A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result,
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- i The MRL/MDL has been elevated due to a chromatographic interference.
- X See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product

 $000 \cup 3$

Client:

Longview Fibre Company

Project:

Seattle Groundwater

Sample Matrix: Water

Service Request No.:

Date Received:

K0503515

8/31/05

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier I data deliverables. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Two water samples were received for analysis at Columbia Analytical Services on 8/31/05. The following discrepancies were noted upon initial sample inspection. The samples were received at 16.1 °C, which was above the upper control limit of 6.0 °C. Since this was the only sample and the analytes are not affected by temperature, testing was commenced. The exceptions are also noted on the cooler receipt and preservation form included in this data package. Otherwise, the samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Diesel Range Organics by NWTPH-Dx

Surrogate Exceptions:

The control criteria were exceeded for the surrogate o-Terphenyl in sample West Parking due to chromatographic matrix interferences. The surrogate peak was not adequately resolved from complex hydrocarbon background. No further corrective action was appropriate.

Elevated Method Reporting Limits:

Sample West Parking required dilutions due to elevated levels of Diesel Range Organics and Residual Range Organics. The reporting limits are adjusted to reflect the dilutions.

Approved by SWEST

000:4

Analytical Results

Client:

Longview Fibre Company

Project:

Seattle Groundwater

Sample Matrix:

Water

Service Request: K0503515

Date Collected: 08/29/2005

Date Received: 08/31/2005

Diesel and Residual Range Organics

Sample Name:

North Parking Lot

Lab Code:

K0503515-001

Units: ug/L Basis: NA

Extraction Method:

EPA 3510C

Level: Low

Analysis Method:

NWTPH-Dx

Date Dilution Date Extraction Factor Extracted Analyzed

Analyte Name Diesel Range Organics (DRO)

1300 H

Result Q

09/01/05 09/05/05 1 09/01/05

Lot Note KWG0515184

Residual Range Organics (RRO)

250 500 3000 O

1

KWG0515184 09/05/05

Control Date %Rec Limits Surrogate Name Note Analyzed o-Terphenyl 103 50-150 09/05/05 Acceptable n-Triacontane 107 50-150 09/05/05 Acceptable

MRL

Comments:

Printed: 09/07/2005 16:48:46

u \Sicalth\Crystal rpt\Form lm rpt

Merged

Form 1A - Organic

SuperSet Reference:

Page RR51790

1 of 1

Analytical Results

Client:

Longview Fibre Company

Project:

Seattle Groundwater

Sample Matrix:

Water

Service Request: K0503515

Date Collected: 08/29/2005

Date Received: 08/31/2005

Diesel and Residual Range Organics

Sample Name:

West Parking

Lab Code:

K0503515-002

Units: ug/L Basis: NA

Extraction Method:

EPA 3510C

Analysis Method:

Level: Low

NWTPH-Dx

Analyte Name	Result Q	MRL	Factor	Extracted	Analyzed_	Lot	Note
Diesel Range Organics (DRO)	260000 DY	13000	50	09/01/05	09/06/05	KWG0515184	
Residual Range Organics (RRO)	34000 DO	5000	10	09/01/05	09/05/05	KWG0515184	

Mil..tian

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note	
o-Terphenyl n-Triacontane	184 129	50-150 50-150	09/05/05 09/05/05	Outside Control Limits Acceptable	

Comments:

Printed: 09/07/2005 16:48:48 u:\Stealth\Crystal.pt\Form\m.rpt

Merged

Form 1A - Organic

SuperSet Reference:

Page 1 of 1

Analytical Results

Client:

Longview Fibre Company

Project:

Seattle Groundwater

Sample Matrix:

Water

Service Request: K0503515

Date Collected: NA

Date Received: NA

Diesel and Residual Range Organics

Sample Name:

Method Blank

Lab Code:

KWG0515184-4

Extraction Method: EPA 3510C

Units: ug/L

Basis: NA

Level: Low

Analysis Method: NWTPH-Dx

			Dilution	Date	Date	Extraction	
Analyte Name	Result Q	MRL	Factor	Extracted	Analyzed	Lot	Note
Diesel Range Organics (DRO)	ND U	250	1	09/01/05	09/05/05	KWG0515184	
Residual Range Organics (RRO)	ND U	500	1	09/01/05	09/05/05	KWG0515184	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note	
o-Terphenyl	112	50-150	09/05/05	Acceptable	
n-Triacontane	118	50-150	09/05/05	Acceptable	

Comments:

Printed: 09/07/2005 16:48:50 u:\Stealth\Crystal.rpt\Form1m rpt

Merged

Form 1A - Organic

RR51790 SuperSet Reference:

Page 1 of 1

Columbia Analytical	HAIN OF CUS	STODY	SR#: KU503515
Services NC. An Employee - Owned Company 1317 South 13th Ave. • Kelso, WA 9862	6 • (360) 577-7222 • (800) 695-72	22x07 • FAX (360) 636-1068 PAGE _	
PROJECT NEWSCHILLE S. C. STUND WILKEN PROJECT MUMBER PROJECT MUMBER FANDERSON COMPANINADORESS East Navamail Way South To Long VIEW Fibre. Co CITY STATERIE, HE WA 98/34	OF CONTAINERS SO CONTAINERS RESOLUTION RESOLU	7. Tingerpaint (Fig.) (100 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
	\$ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		S S S REMARKS
North parking stax 5:30	- 接触		
104	(4) (4) (4) (4) (4) (4) (4) (4) (4) (4)	1 1 1 1 1 1	
West parking bot 8/29/05 5.30			
The state of the s			
	1800 1800 1800 1800		
 	PROFILE PROFIL	 	
			
		┦╌┤┈┤┈╎┈╎┈ ┤	-}
INVOICE INFORMATION	12360 x 1		
REPORT REQUIREMENTS P.O. #	Circle which matals are to be an		
I. Routine Report; Method Bill To:		·	Mn Mo Ni K Ag Na Se Sr TI Sn V Zn Hg
Blank, Surrogate, as required		_	Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg
II. Report Dup., MS, MSD as TURNAROUND REQUIREMEN		CARBON PROCEDURE: AK CA WI	NORTHWEST OTHER:(CIRCLE ONE)
required24 hr48 hr.	SPECIAL INSTRUCTIONS/	COMMENTS.	•
III. Data Validation Report5 Day			
(includes all raw data) Standard (10-15 working day	s)		
IV. CLP Deliverable Report Provide FAX Results		:	
V. EDD	-		
A RELINQUISHED BY:	CEIVED BY; / /	RELINQUISHED BY:	RECEIVED BY:
Miller Bary Signer Charge	1230 1230	Signature Date/Time	Signature Date/Time
Mik Auderson Longview Abre Printed Name Firm Co Printed Name	Firm	Printed Name Firm	Printed Name Firm

Columbia Analytical Services Inc. Cooler Receipt and Preservation Form

	6.D
PC	Tel

Project/Client_	bre			ork Order K05	3575	- 4 /]		
Cooler received on	3/05	_ and ope	ned on 3/B/D	<u>6</u> by	A.Ju	W		
1. Were custody seals on out		ers?	عران ر				(P)	N
If yes, how many and	where?	1 LIVI	a side				^	
2. Were custody seals intact?	•							N ·
3. Were signature and date p		•			411		(Y)	N
4. Is the shipper's airbill ava	ilable and f	iled? If no	, record airbill number:	<u>8918450 H</u> L	04		Y	N
5. COC#								
Temperature of cooler(s) upon rece	eipt: (°C)	18.7					
Temperature Blank:	(°C)		16:1					
Were samples hand deliver	red on the sa	ame day as	collection?				. *	
6. Were custody papers prop	erly filled o	ut (ink, sigi					(V)	N
7. Type of packing material	present	van ac	1 CKS, SLEEVE	<u> </u>				
8. Did all bottles arrive in g	good condit	ion (unbro	•				Ð	N
9. Were all bottle labels com	plete (i.e an	alysis, pres	ervation, etc.)?					N
10. Did all bottle labels and	tags agree w	ith custody	papers?				(P)	N
11. Were the correct types of	of bottles us	ed for the	tests indicated?				ŽŽ.	N
12. Were all of the preserved				pH?			원&@ (S	N
13. Were VOA vials checked							4	- N -
14. Did the bottles originate f							$\langle y \rangle$	N
15. Are CWA Microbiology				me remaining fr	rom collection?		- Y	
16. Was C12/Res negative?	-						-Y	_N .
Explain any discrepancies:								
		·						
RESOLUTION: OK	to T	G, X	Ouly San	60	Elm	8/2/		
			4	7				
Samples that required present	vation or r	eceived or	ut of temperature:					
	1			T	D-14			
Sample ID	Reagent	Volume	Lot Number	Bottle Type	Rec'd out of Temperature	Initials		
		<u> </u>		<u> </u>	<u> </u>			
	<u> </u>							
					İ		n. a	



September 30, 2004

Service Request No: K2406828

Mike Anderson Longview Fibre Company End of Fibre Way P.O. Box 639 Longview, WA 98632

RE: Seattle Ground Water

Dear Mike:

Enclosed are the results of the rush sample(s) submitted to our laboratory on September 8, 2004. For your reference, these analyses have been assigned our service request number K2406828.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAC standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3291.

Respectfully submitted,

Columbia Analytical Services, Inc.

Ed Wallace

Project Chemist

EW/jeb

cc:

Hank Rakoz, Longview Fibre

Acronyms

ASTM American Society for Testing and Materials

A2LA American Association for Laboratory Accreditation

CARB California Air Resources Board

CAS Number Chemical Abstract Service registry Number

CFC Chlorofluorocarbon
CFU Colony-Forming Unit

DEC Department of Environmental Conservation

DEQ Department of Environmental Quality

DHS Department of Health Services

DOE Department of Ecology
DOH Department of Health

EPA U. S. Environmental Protection Agency

ELAP Environmental Laboratory Accreditation Program

GC Gas Chromatography

GC/MS Gas Chromatography/Mass Spectrometry

LUFT Leaking Underground Fuel Tank

M Modified

MCL Maximum Contaminant Level is the highest permissible concentration of a

substance allowed in drinking water as established by the USEPA.

MDL Method Detection Limit
MPN Most Probable Number
MRL Method Reporting Limit

NA Not Applicable
NC Not Calculated

NCASI National Council of the Paper Industry for Air and Stream Improvement

ND Not Detected

NIOSH National Institute for Occupational Safety and Health

PQL Practical Quantitation Limit

RCRA Resource Conservation and Recovery Act

SIM Selected Ion Monitoring

TPH Total Petroleum Hydrocarbons

tr Trace level is the concentration of an analyte that is less than the PQL but greater

than or equal to the MDL.

Inorganic Data Qualifiers

- The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- The MRL/MDL has been elevated due to a matrix interference.
- X See case namative.

Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- B The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
- The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative
- * The duplicate analysis not within control limits. See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

- The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- i The MRL/MDL has been elevated due to a chromatographic interference.
- X See case nurrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic tingerprint of the sample matches the elution pattern of the calibration standard.
- L The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic tingerprint of the sample resembles a petroleum product, but the clution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic tingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y

 The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

00003

RUSH

Columbia Analytical Services Inc. Cooler Receipt and Preservation Form

PC	ED

	lu ru	200.		10170	n 68	22		
Project/Client		BM-		ork Order K24	0 / 2			
Cooler received on	9/8/07	and ope	ened on <u>9/8/04</u>	by_	4p			
1. Were custody so	eals on outside of coo	lers?	•				\mathfrak{S}	N
If yes, how	many and where?		25					
2. Were custody se	•					-	\mathcal{S}	N
	and date present on th						(\mathcal{Y})	N
4. Is the shipper's	airbill available and	filed? If no,	, record airbill number:_	12 9034660	225 000110	9 .	Y	(N)
5. COC#			·					
Temperature	of cooler(s) upon rec	eipt: (°C)	2.2					
Temperature	Blank: (°C)		6.3			_		
Were samples h	and delivered on the s	ame day as	collection?				٠¥	N
6. Were custody p	apers properly filled o	out (ink, sign	ned, etc.)?				Ø	N
7. Type of packing	g material present	Buras	MEY		·			
8. Did all bottles	arrive in good condi	tion (unbro	ken)?				\mathfrak{G}	N
9. Were all bottle	labels complete (i.e ar	nalysis, pres	ervation, etc.)?				(\mathfrak{X})	N
10. Did all bottle l	abels and tags agree v	vith custody	papers?				E	N
11. Were the corr	ect types of bottles u	sed for the	tests indicated?	•			65	N
12. Were all of the	preserved bottles rece	eived at the	lab with the appropriate	pH?			<u> </u>	<u>—</u> -N
13. Were VOA via	ls checked for absenc	e of air bubl	bles, and if present, noted	d below?			7	N
14. Did the bottles	originate from CAS/F	C or a branc	h laboratory?				60	N
15. Are CWA Mic	crobiology samples r	eceived wit	h >1/2 the 24hr. hold ti	me remaining f	rom collection?		¥	N
16. Was C12/Res r	negative?						Y	N
Explain any discre	pancies:	·						·
								
								
RESOLUTION:					· 			
Samples that requir	red preservation or r	received of	it of temperature:					
					Rec'd out of			
Sample ID	Reagent	Volume	Lot Number	Bottle Type	Temperature	initials		
		-		 				
			· · · · · · · · · · · · · · · · · · ·					
		 	· · · · · · · · · · · · · · · · · · ·					
				-				
		 	<u> </u>	+				
				1				
		 		 	 		}	

A C	olumbia
	Analytical
الاست	Services 🗠

Analytical					Cł	IA	IN (OF	C	US	TC)D	Υ								SR	#:	K}	qu	<u>lg</u>	70)	
An Employee-Owned Company	1317	7 South 131	lh Ave. • Ke	lso, WA 9	98626	(360)	577-72	222 • 1	(800) 6	95-72	22x07	• FAX	(360)	636-10	068	F	PAGE	Ē	1_	OF		<u> </u>	_ cc)C #_				
PROJECT NUMBER 9	cròn	nd a	vater			-		· /	BIEXCI	1	Τ,		7	8151AC		Γ,	7	7] sv /	<u> </u>	2000	7	T	T	7	7	7	
COMPANYADDRESS CAQVIEW FIDER	_		East	May	'y ma	TAINER	100 Je 2011				1,065	D 867		.8151M	Tob!	Paylos	Hex-China		John Picker							7 -	/	•
PHONE SOUTH SCENATURE	oatt D	10 10 FAX# 200	H-98 761	134 -24	12/	Semivolatio	Volenie O. (270 Ga	Hydrocatt Comics	Les es Control	Oil & Gran Screen	Se Tree Se		Chlorophe Chies	PAHO Telling. 8	8370 [2]	Cyania Dissolved		18 8 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		$o_{G_{n}}^{\gamma}$	/	//	/ /	/ /	/		٠	
SAMPLE I.D. D.	ATE	TIME	LAB 1.D.	MATRIX	7 ₹	\g**	1/2/2]/\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\						A P	180		E	[] ₹	3/8		/		/.	/ -	. /	REN	1ARK	3
North parking lotg	1764	3:45	n					1/																	\top			
l. 1 i '177 .♥ : 1 i	17/04	3.50p						1																T	\top			
- J	1481																							T	1			
																								1	\top			
					ļ																			1	\top			
			· ·		 											_	<u> </u>							\top	1			
																	I^-						┢	T	1			
					1							1											†	1	1			
					 		 			\vdash		<u> </u>			_							<u> </u>		T	十			
					<u> </u>	\vdash		-	ļ		_	-						 	ļ			 	<u> </u>	十	+			
PEROPI REGUIRENT			ICE INFOR		N	Circle	which	metals	are to	be an	alvzed:		1	L		L	L		<u> </u>	—	L		1	<u> </u>				
REPORT REQUIREMENT	L						tal Meta						ı Cd	Co	Or Ci	ı Fe	Pb I	Ma N	In Mo	Ni	K Ac	Na Na	Se	Sr TI	Sn	. V 7	Zn H	a
I. Routine Report: Meth Blank, Surrogate, as	ioa	Bill To:					ived Me											-										_
required							ICATE											_								LE ÓN		
II. Report Dup., MS, MS required	D as		OUND RE		ENTS	SPE	CIAL I	NSTR	UCTK	ONS/C	COMM	ENTS	3:															
III. Data Validation Repo	ort	24 I		48 hr.																			•					
(includes all raw data)			ay Indard (10-15	working	davs)																							
IV. CLP Deliverable Repo	ort		vide FAX Re		u= , -,																							
V. EDD		9/1	5/04 equested Rep																									
ALL A HELINQUISHED	9Y:/	 y 3:55	 	/	REGI	ÎVED	BY:	Tal	160	,,			REI	LINQL	JISHE	D BY:			T			RI	ECEN	VED B	IY:			
Signature Date	1/1/01 e/⊺ime		1 200	ature]	.][.][// /// ate/fi	() 4 Tel 4	163 3	الع	Síg	nature)		Da	ate/Tin	ne			Sign	ature		—	Da	te/Tir	me		-
Printed Name Firm	u ANIG	N F. bre	Print	ed Nami	-	— F	lrm	<u> </u>		-	Priz	nted N	ame			rm		•		Print	ed Na	me		Fin	m	 -		-

RCOC #1 04/02

Analytical Results

Client:

Longview Fibre Company

Project:

Seattle Ground Water

Sample Matrix:

Water

Service Request: K2406828

Date Collected: 09/07/2004

Date Received: 09/08/2004

Diesel and Residual Range Organics

Sample Name:

North Parking Lot

Lab Code:

Units: ug/L

K2406828-001

Basis: NA

Extraction Method:

EPA 3510C

Analysis Method:

NWTPH-Dx

Level: Low

Analyte Name	
Diesel Range Organics (DRO)	

Result Q 1800 H

1 09/09/04 1 09/09/04

Date

Extracted

Analyzed 09/11/04

Date

Lot KWG0413613 Note

Extraction

Residual Range Organics (RRO)

630 5300 O

MRL

320

Dilution

Factor

KWG0413613 09/11/04

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note	
o-Terphenyl	101	50-150	09/11/04	Acceptable	
n-Triacontane	107	50-150	09/11/04	Acceptable	

Printed: 09/30/2004 08:53:15

U:\Stealth\Crystal.rpt\Form1m rpt

Form 1A - Organic

SuperSet Reference:

LFC002116

Analytical Results

Client:

Longview Fibre Company

Project:

Seattle Ground Water

Sample Matrix:

Water

Service Request: K2406828

Date Collected: 09/07/2004

Date Received: 09/08/2004

Diesel and Residual Range Organics

Sample Name:

West Parking Lot

Lab Code:

K2406828-002

Extraction Method:

Units: ug/L Basis: NA

Analysis Method:

EPA 3510C NWTPH-Dx Level: Low

Analyte Name	
Diesel Range Organics (DRO)	_

Residual Range Organics (RRO)

Result Q

23000 DY

4800 O

Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
10	09/09/04	09/29/04	KWG0413613	
1	09/09/04	09/11/04	KWG0413613	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note .	
o-Terphenyl	105	50-150	09/11/04	Acceptable	
n-Triacontane	94	50-150	09/11/04	Acceptable	

MRL

2600

520

Comments:

Printed: 09/30/2004 08:53:17

U:\Stealth\Crystal.rpt\Form1m.rpt

Merged

Form 1A - Organic

SuperSet Reference:

1 of 1

Analytical Results

Client:

Longview Fibre Company Seattle Ground Water

Project: Sample Matrix:

Water

Service Request: K2406828

Date Collected: NA
Date Received: NA

Diesel and Residual Range Organics

MRL

250

500

09/10/04

Sample Name:

Method Blank

Lab Code:

n-Triacontane

KWG0413613-3

Units: ug/L Basis: NA

Extraction Method:

EPA 3510C

. .

Analysis Method:

NWTPH-Dx

Level: Low

Analyte Name
Diesel Range Organics (DRO)
Residual Range Organics (RRO)

Result Q ND U ND U Date

Dilution

Acceptable

Analyzed 09/10/04 09/10/04

Date

 Extraction
 Note

 KWG0413613
 KWG0413613

Surrogate Name	%Rec	Control Limits			
o-Terphenyl	96	50-150	09/10/04	Acceptable	_

50-150

88

Comments:

Printed: 09/30/2004 08:53:19

U:\Stealth\Crystal rpt\Form lm.rpt

Merged

Form 1A - Organic

SuperSet Reference:

Page 1 of 1

00016

LONGVIEW FIBRE COMPANY

MAIN OFFICE AND MILLS. LONGVIEW, WASHINGTON 98632



September 26, 1990

Mr. Gary Smith, Plant Manager Longview Fibre Company Western Container Division P.O. Box 24867 Seattle, WA 98124

Dear Gary:

Enclosed you will find the test results for the starch sludge and ink sludge samples sent to us by your plant in August. I am sorry it has taken so long to get these results back to you.

As you can see, the results are very good. They found very little of anything in these sludges. The TCLP extract method is the newest EPA method for determining whether a waste is hazardous or not. It is a very tough standard to meet. We also ran pH and BOD here in our lab. The BOD numbers were very high but you would expect this from concentrated sludge. The pH of the starch sludge is also rather high. It looks to me that these materials could go into the sanitary sewer system with lots of water to help dilute them down. If you are pumping these sludges into trucks they could be dumped into a sewage treatment plant. You might also be able to take the dewatered sludges to a landfill although I would not if it could be avoided. Anything put into a landfill can later come back to haunt you if the landfill becomes a "superfund" site.

We would like you to send us samples in the future, anytime you clean your sumps or at least once per year. We will keep the results on file here and send you copies. If we can be of further help, please give me a call.

Sincerely,

David N. Mendenhall Water Quality Engineer

DNM:eh Enclosure

Analytical Report

CLIENT: Longview Fibre Company SUBMITTED BY: Dave Mendenhall PROJECT: Seattle Box Plant SAMPLE DESCRIPTION: Sludge DATE RECEIVED: 08/31/90
DATE TCLP PERFORMED: 09/13/90
DATE ANALYZED: 09/17/90
WORK ORDER #: K903142

TCLP Extract EPA Method 1311 Metals mg/L (ppm)

Sample Name: Lab Code:				Starch Sludge #1 3142-1	Ink Sludge #2 3142-2
Parameters	Analysis <u>Methods</u>	MRL	Regulatory Limit*		
Arsenic	6010	0.1	5.0	ND	ND
Barium	6010	0.01	100	0.05	7.07
Cadmium	6010	0.01	1.0	0.02	ND
Chromlum	6010	0.01	5.0	0.01	ND
Lead	6010	0.05	5.0	0.08	ND
Mercury	7470	0.001	0.2	ND	ND
Selenium	6010	0.1	1.0	ND	ND
Sliver	6010	0.01	5.0	ND	ND

ND means None Detected at or above the MRL MRL means Method Reporting Limit

* From 40 CFR Part 261, et. al.

Approved by Colin Ellitt Date 9/25/90

Analytical Report

CLIENT: Longview Fibre Company SUBMITTED BY: Dave Mendenhall PROJECT: Seattle Box Plant SAMPLE DESCRIPTION: Sludge DATE RECEIVED: 08/31/90
DATE TCLP PERFORMED: 09/13/90
DATE EXTRACTED: 09/15/90
DATE ANALYZED: 09/18/90
WORK ORDER #: K903142

TCLP Extract EPA Method 1311 Semi-Volatile Organic Analytes mg/L (ppm)

Sample Name: Lab Code:				Starch Sludge #1 3142-1	Ink Sludge #2 3142-2
Parameters	Analysis Methods	MRL	Regulatory Limit*		
Hexachloroethane	3510/8015M	0.05	3	ND	0.07
Nitrobenzene	3510/8015M	0.05	2	ND	ND
Hexachlorobutadiene	351D/8015M	0.05	0.5	ND	ND
2,4-Dinitrotoluene	3510/8015M	0.05	0.13	ND	ND
Hexachlorobenzene	3510/8015M	0.05	0.13	ND	ND
2,4,6-Trichlorophenol	3510/8040	0.05	2	ND	ND
2,4,5-Trichlorophenol	3510/8040	0.05	400	ND	ND
Pentachlorophenol	3510/8040	0.1	100	ND	ND
Pyridine	3510/8015M	0.05	5	ND	ND
o-Cresol	3510/8040	0.05	200	ND	ND
m-Cresol	3510/8040	0.05	200	ND	ND
p-Cresol	3510/8040	0.05	200	ND	ND
Total Cresols	3510/8040	0.05	200	ND	ND

ND means None Detected at or above the MRL
MRL means Method Reporting Limit
means Modified Method

Approved by Colin Ellitt Date 9/25/90

^{*} From 40 CFR Part 261, et. al.

Analytical Report

CLIENT: Longview Fibre Company SUBMITTED BY: Dave Mendenhall PROJECT: Seattle Box Plant SAMPLE DESCRIPTION: Sludge DATE RECEIVED: 08/31/90
DATE TCLP PERFORMED: 09/06/90
DATE ANALYZED: 09/08/90
WORK ORDER #: K903142

TCLP Extract
EPA Method 1311 *
Volatile Organic Analytes
mg/L (ppm)

Sample Name: Lab Code:				Starch Sludge #1 3142-1	Ink Sludge #2 3142-2
Parameters	Analysis Methods	MRL	Regulatory Limit**		
Benzene	8020	0.01	0.5	ND	ND
Carbon Tetrachloride	8010	0.01	0.5	ND	ND
Chlorobenzene	8010	0.01	100	ND	ND
Chloroform	8010	0.01	6 ·	ND	ND
1,4-Dichlorobenzene	8010	0.01	7.5	ND	ND
1,2-Dichloroethane	8010	0.01	0.5	ND	ND
1,1-Dichloroethylene	8010	0.01	0.7	ND	ND
Methyl Ethyl Ketone	8020	0.1	200	ND	ND
Tetrachloroethylene	8010	0.01	0.7	ND	ND
Trichloroethylene	8010	0.01	0.5	ND	ND
Vinyl Chloride	8010	0.01	0.2	ND ·	ND

ND means None Detected at or above the MRL MRL means Method Reporting Limit

- TCLP Extraction utilized zero headspace extractor.
- ** From 40 CFR Part 261, et. al.

Approved by	Colin	Ellitt	Date_	9	125/90
					, •

LFCo. LAB SERVICE	MEMO RANDUM	No. 8492
·		Date: 08/28/90
SUBJECT:	lysis of Sludges from +	the Seattle Boy Plant
	: Dans menden haso Work	Performed by: Augusth & Span
Source and Descri	ption of Sample: Two samp the Starch sile sur	up. (storch)
Analytical or Exp by J. Springer Crucible, ionis method for sec. 1c. model 457	erimental Procedure: <u>CoDon</u> PH by meter mes fed @ beo'C + ach. To well metals which july	stack aluge & BOD dehermend tals- Sample dried (25me) in he ash processed free Wiesh is determined using the
RESULTS:	Starch Studge	Ink Sludge
P.H.	11.65	7.09
Вор	62,542	156,000
COD		
PPM Cr	2.73	4.55
C.	328.0	2 4 f. O
PL	/.52	//,22

Petroleum Reclaiming Service, Inc.

3003 Taylor Way. Tacoma. Washington 98421 Tacoma: (206) 383-4474 Seantle: (206) 587-6206

PROFILE NO.

•								
			1. GENERAL	INFORMAT	ION			
Genomeor Mame	7222	IEW FIBE	D		Gen	PRED U.S. EPAID	XIEMPITI	
Facility Address	IOI E	AST MARGI	MAL WAY SON	869ng Address	PROTET	THE B	MILIBONNEMBATTAL	
75		WASHINGT			1085	74 AU	E South	
		<u> </u>			SexT	E. WA	113P WOTOMHO	78
Technical Contact	Jim	MANTEL		MACH	TENAN		12001762-7175	١
Bueness Cortect	Im	RAIMOND		GENER		AGER	12941 (574-det)	<u>}</u>
Wasto Product Name		2.	WASTE PRODUCT DESC	RIPTION & CH	ARACTERIS	TICS	_, _, _	
Process Generating West	•	mb sin	- -			·		
Physical State A		EANING OF		Feet	Point		Layers	
	Shops	2 ° N	a □ 70=		. 14 0% .	C Comment Chap	☐ Multipered	
C Locate C	Powder	Volume	☐ 70°F 100°F.	Ξ.	o Plash	☐ Open Cup	B-Layered Herroconnous	
pet		Solids	Density (5			Odor	Caler	
-	10.1 - 12	B by votering p	☐ Linkers	ital-gal.	O None	C Seong	BROWN	
	12 Exect	Cincolad		be-#*	Describe			
· · · · · · · · · · · · · · · · · · ·		Supress		 			_	
C CHEMICAL COM	POSITION (TOTALS MUST ADD TO	100%	D METALS	DIOTAL (P	PAG) ÜZPAZIM	PACTION PROCEDURE (mg/L)	
- June	مبتو	DREZ		ARSENC (AS	ــــا (SELENUM (Se)	
WATER	- (HEC	<u>) </u>		BAFFUM (Bal			SIVLER (Ag)	
				CADMILIM (Co	a		00PPERION	
			*	CHPOMIUM (I	on		RUCKET (NI)	
				MERCURY (H	91		ZINC (Zni	
1			~ · · · · · · · · · · · · · · · · · · ·	LEAD (Pol	/		THALLIUM(T)	
<u> </u>				CHROMIUM -	HEX (Cr + 6)L		J	
	····		~	E OTHER CO	PERCHANIS -			
<u> </u>				CYANIDES SULFIDES			evoucs	
F SHIPFING BIFOR	MATTON		· · · · · · · · · · · · · · · · · · ·	G' HAZARDO	NUS CHARACT	EVESTICS		
O.O.T. HAZARDOUS MAT	-	THE E NO		REACTIVITY: 2	HOHE [I рукорновіс	C SHOCK SENSTIVE	
	e <u>MUH</u>		TE SLUDGET	□ EXPLOSIVE		WATER REACTIV	E COTHER	 -∤
METHOD OF SHIPMENT:	П мек		☐ SUK SOUD	OTHERHOZURO BONE		ADIOACTIVE	O ETIOLOGICAL	
AZINGO OF SHEMENI.	-	mess St		CI PESTICIDE			OTHER	
ANTICIPATED VOLUME	_	- ,	CUBIC YARDS	USEPA HAZARDI			NO '	
	<u> </u>			USEPA HAZI	VIDOUS CODES	٠ ــــــــ ١		
PER	TOMETI: NAMED ID		© MONTH □	STATE HAZAROX	SUS WASTE?	O AES &	NO	
· · · · · · · · · · · · · · · · · · ·				STATE COOL	ž9 <u> </u>			
H SPECIAL HANDLIN	NG REPORTE	ATTOM ROTTA				·		
				· · · · · · · · · · · · · · · · · · ·			[] ADDITIONAL PAGES ATT	ACHED
HEREBY CERTIFY THAT	ALL INFORM	ATION SUBMITTED IN THIS	AND ALL ATTACHED DOCUMENT	TS IS COMPLETE A	NO ACCURATE,	AND THAT ALL 1000	MIN OR SUSPECTED HAZAROS HAVI	
RISCLOSED. NUTHORIZED SIGNATURE		me R W						
	Jon	~ UK (1"	WIND	topure	monte	1 Coronde	mater 0/29/91	82

No. 9884

Date: 09 July 1996

Subject: TCLP Metals in Hoxplant Waste Samples

Keywords: Ink, TCLP

Work Requested by: Steve Frase (JET)

Work Performed by: Dwayne Van

Source and Description of Sample:

6 ink waste samples from the Seattle boxplant, and 2 samples from the Spanish Fork boxplant.

Analytical Methods and Procedures:

TCLP was determined for each sample using EPA method 1311.

LAB RESULTS:	5 Tiggor	10 r Tat aget ppin Cu	Spin Trigger	Harage
	рри Ст	ppiń Cu	ppin Pb	ppm Zn /
SEATTLE 6/11				
#3 Flexu - not running	,036	1.161	170	.286
#4 Flexo	085	.061	.214	.525
#5 Flexo	089	.257	.187	,050
#7 Flexo	058	.073	.211	.495
Bobst Diecut	,ö72	,673	.374	.636
151 Press	.080	1,860	.175	358
Spanish Fork 6/11	• • •			
- Ink Sump	.0.32	.088	.413	.467
Starch Sump	.077	,048	.251	1.054

No problem with these heavy motols of E.7

OIL SERVICES COLLECTION

ACCEPT FOR SHIPMENT

REVISED: 06/24/9 RUN: 06/25/9

BRANCH/SUBMITTER: 118101 SEATTLE

CONTROL #: 1713897-8 LAB #: 6069713897-9 1066235 SURVEY #:

GENERATOR INFORMATION: CUSTOMER NUMBER: 1181-01-7274

LONGVIEW FIBRE 5901 MARGINAL WAY SO SEATTLE, WA 98134

ATTN: KIM ARMSTRONG

BRANCH: 118101 - SEATTLE

GENERAL DESCRIPTION: PIT SLUDGE/H20
NATURE OF BUSINESS: CARDBOARD
FEDERAL EPA 10: WAD009282161 STATE ID(S):
FACILITY ADDRESS:
S901 MARGINAL WAY SO
SEATTLE, WA 98134
PROCESS DESCRIPTION: WASH INK ROLLERS
GENERATION AMOUNT: 200 GALLONS YEARLY
PAR
P.O. #: SE706033 DATE SURVEY SIGNED: 06/06
CONTACT: KIM ARMSTRONG TITLE: MAINTENANCE CLERK
SURVEY COMMENTS:
REQUEST BULK PICK UP WITH VAC-SERVICE WASTE WATER & SLUDGE STATUS: SOG PART# DATE SURVEY SIGNED: 06/06/97 TITLE: MAINTENANCE CLERK PHN: PHN: 206-762-7170

Regular. \$30300 per drum.

*** ACCEPT FOR SHIPMENT

CONTINUED ON NEXT PA

MANIFEST INFURMATION

CONTROL #: SAMPLE #: RUN: 06/25/97 1713897-8 1066235

REQUIRED MANIFEST FORM: GN

SAFETY-KLEEN CORP. PROVIDES THIS MANIFESTING INFORMATION FOR INSTRUCTIONAL PURPOSES ONLY. ALL THE INFORMATION IS BELIEVED TO BE ACCURATE, BUT IS KNOWN TO BE INCOMPLETE. FEDERAL AND STATE REGULATIONS AND THE INSTRUCTIONS ON THE MANIFEST FORM SHOULD BE CONSULTED FOR COMPLETE INFORMATION. IN ADDITION, CERTAIN VARIATIONS MAY BE ALLOWED BY REGULATIONS, BUT NEED TO BE APPROVED BY A SAFETY-KLEEN REPRESENTATIVE PRIOR TO SHIPMENT.

UNIFORM HAZARDOUS! WASTE MANIFEST!	ERATORS US EPA NO. TO WADO09282161	OCUMENT NO.!2.P ! !	AGE! 1 UNDERLINED AREA: ARE REQUIRED
3. GENERATOR NAME AND MA	ILING ADDRESS	IA. STATE	MANIFEST DOCUMENT NO
LONGVIEW FIBRE CO 5901 E MARGINAL WAY		!	
SEATTLE	WA 98134	B. STATE	GENERATOR ID
4. GENERATOR PHONE 206	762 7170		
5. TRANSPORTER 1 CO NAME SAFETY-KLEEN CORP.	6. US EPA ID NO 11D984908202	C. ST TRANS	ID TER PHONE <u>206939202</u> ;
7. TRANSPORTER 2 CO NAME	B. US EPA ID NO	IE. ST TRANS	
9. FACILITY NAME AND SIT	E ADDRESS 10. US EF	PA ID NUMBER !	G. FACILITY STATE I
SAFETY-KLEEN CORP. 3700 LAGRANGE ROAD SMITHFIELD KY	KYD6)53348108 !	H. FACILITY PHONE 502 845 2453
11, US DOT DESCRIPTION		CÓN	TAINER II. WASTE NO
A. HM. WASH WATER (NOT USDOT OR USEPA	HAZAROOUS MATERIAL)		N/I
J. ADDITIONAL DESCRIPTIO	N FOR THE MATERIALS	LISTED ABOVÉ	:K. HANDLING CODE
15. SPECTAL HANDLING INS	TRUCTIONS AND ADDIT	TONAL THEORMATIO	<u>:</u>

EMERGENCY RESP#800-468-1760(24 HR). IF UNDELIVERABLE, RETURN TO GENERATOR.

MANIFEST INFORMATION

CONTROL #: SAMPLE #: RUN: 06/25/97 1713897-8 1066235

REQUIRED MANIFEST FORM: T)

SAFETY-KLEEN CORP. PROVIDES THIS MANIFESTING INFORMATION FOR INSTRUCTIONA PURPOSES ONLY. ALL THE INFORMATION IS BELIEVED TO BE ACCURATE, BUT IS KNOWN TO BE INCOMPLETE. FEDERAL AND STATE REGULATIONS AND THE INSTRUCTIONS ON THE MANIFEST FORM SHOULD BE CONSULTED FOR COMPLETE INFORMATION. IN ADDITION, CERTAIN VARIATIONS MAY BE ALLOWED BY REGULATIONS, BUT NEED TO BE APPROVED BY A SAFETY-KLEEN REPRESENTATIVE PRIOR TO SHIPMENT.

UNIFORM HAZARDOUS! WAD009282161 ! WASTE MANIFEST!	NT NO. 12. PAGE! UNDERLINED AREA:
3. GENERATOR NAME AND MAILING ADDRESS	A. STATE MANIFEST DOCUMENT NI
LONGVIEW FIBRE CO 5901 E MARGINAL WAY	PREPRINTED ON FORM
SEATTLE WA 98134	B. STATE GENERATOR ID
4. GENERATOR PHONE 206 762 7170	99953
5. TRANSPORTER 1 CO NAME 16. US EPA ID NO 10 SAFETY-KLEEN CORP. ! ILD984908202 !D	. ST TRANS ID . TRANSPORTER PHONE 206939202
	. ST TRANS ID . TRANSPORTER PHONE
9. FACILITY NAME AND SITE ADDRESS 10. US EPA ID	NUMBER IG. FACILITY STATE TO
SAFETY-KLEEN CORP. 1722 COOPER CREEK ROAD TX00776033 DENTON, TX 76208	371 65124 H. FACILITY PHONE 940 383 2511
II. US OUT DESCRIPTION	CONTAINER! I. WASTE NO
A. HM. WASH WATER (NOT USDOT OR USEPA HAZARDOUS MATERIAL)	<u>OUTS1011</u> M/
J. ADDITIONAL DESCRIPTION FOR THE MATERIALS LISTE	D ABOVE !K. HANDLING CODE
	! ! !
	:
15 SPECTAL HANDLING INSTRUCTIONS AND ADDITIONAL	TNFORMATION

15. SPECIAL HANDLING INSTRUCTIONS AND ADDITIONAL INFORMATION

EMERGENCY RESP#800-468-1760(24 HR). IF UNDELIVERABLE, RETURN TO GENERATOR.

OIL SERVICES COLLECTION

ACCEPT FOR SHIPMENT

REVISED: 06/24/97 RUN: 06/25/93

CONTROL #: 1713897-8 LAB #: 6069713897-9 SURVEY #: 1066235

BRANCH/SUBMITTER: 118101 SEATTLE

CORPORATE REVIEW: DISPOSITION: ACCEPT FOR SHIP REVIEW DATE: 06/24/1997 APPROVED FACILITIES: PART NUMBER: 0087174 WASTE, WATER 55-1 REVIEWERS: DRM KAW

SAFETY-KLEEN CORP.

1722 COOPER CREEK ROAD DENTON, TX 76208

DENTON, TX 7 FEO EPA#: TXD077603371 STATE EPA#: 65124

TELEPHONE: 9403832611

SAFETY-KLEEN CORP 3700 LAGRANGE ROAD SMITHFIELD. KY 40068 KYD053348108

5028452453

STATE AUTH:
APPROVED DOT - SHIPPING DESCRIPTION 0005469 DRUM OR BULK

WASH WATER (NOT USDOT OR USEPA HAZAROOUS MATERIAL)

STATE/PROV. CODES: TX OUTS1011 US EPA WASTE CODES: NONE.

REVIEW COMMENTS:

PROPER SHIPPING DESCRIPTION WAS BASED ON THIS SINGLE ANALYSIS. GENER MUST CERTIFY THAT SHIPMENT IS NOT HAZARDOUS. PER COMPANY POLICY. FRS CUSTOMERS MUST COMPLETE GENERATOR CERTIFICATION WITH EAGH SHIPMENT AND BRANCH WILL FILE IN CUSTOMER RECORDS. GENERATOR

WASTE SHIPPED IN DRUMS FROM THE CUSTOMERS SITE OK FOR WASTE WATER FUEL. NEED TO BE EQUIPPED WITH A BUNG ON THE TOP LID PRIOR TO SHIPMENT. DRUMS RECEIVED FROM THE CUSTOMER LACKING BUNGS WILL BE RETURNED TO THE CUSTOMER BY THE SK TSDF.

THIS WASTE STREAM HAS BEEN REVIEWED FOR RECEIPT AT THE DOLTON RECYCLE CENTER AND IS NOT APPROVED FOR THIS FACILITY AT THIS TIME.

A GENERATOR WASTE DETERMINATION CERTIFICATION FORM FOR USEPA NON-HAZARDOUS WASTE APPROVAL HAS BEEN RECEIVED.

THIS WASTE IS NOT FOR SAFETY-KLEEN VACUUM SERVICES AT THIS TIME.

WATER/INK SLUDGE IS NOT FOR VAC SERVICES. KAW 6/24/97 GENERAL COMMENTS: KF(A)=65.2 ANALYTICAL COMMENTS: WATER ESTIMATED BY DIFFERENCE

CAUSTIC COAGULATION: PASS

THIS SERVES AS NOTICE PER FEDERAL AND STATE REGULATIONS THAT EACH FACILITY NOTED ABOVE HAS THE APPROPRIATE PERMITS. CAPABILITIES, CAPACITY: AND IS WILLING TO ACCEPT THE MATERIAL AS DESCRIBED IN THE APPROVAL SECTION. IT IS THE RESPONSIBILITY OF THE GENERATOR TO NOTIFY SAFETY-KLEEN CORP. OF ANY CHANGES IN THE PROCESS GENERATING THIS WASTE STREAM.

*** ACCEPT FOR SHIPMENT

CONTINUED ON NEXT PAC

VOLATILE ORGANICS BY DIFFERENCE............

*** ACCEPT FOR SHIPMENT

TOTAL

CONTINUED ON NEXT PAG

100.0

100 0

OIL SER LEES COLLECTION

ACCEPT FOR SHIPMENT

BRANCH/SUBMITTER: 118101 SEATTLE

COMPLETEN AR/21/0 REVISED: 06/24/9 RUN: 06/25/9

CONTROL #: 1713897-8

LAB #: 6069713897-9 SURVEY #: 1066235

VOLATILE ORGANIC COMPOSITION OF TOTAL SAMPLE BY GAS CHROMATOGRAPHY SAMPLE PREPARATION METHODS: CS2-EXTRACT

DETECTION METHODS : FID. FID

COMPOSITION OF:

VOLATILE TOTAL ORGANICS SAMPLE

COMPOUND NAME (WT%) (WT%) TRACES OF VOLATILE ORGANICS BETECTED CODE: TR CAS NUMBER: ((1.0% EACH) 100.0 0.1

TOTAL 100.0 0.1

SPECIFIC ORGANIC COMPOSITION POLYCHLORINATED BIPHENYLS (PCBS): NONE DETECTED (

SEG CODE: REVIEWERS: XXX XXX LAB: SK TECHNICAL CT RELEASED: 06/24/97 ANALYZED: 06/23/97 SUBMITTED: 06/10/97

THE ANALYSIS CONTAINED HEREIN ARE PERFORMED SOLELY FOR THE PURPOSE OF QUALIFYING THE ANALYZED MATERIALS FOR ACCEPTANCE BY SAFETY-KLEEN CORP. IN ACCORDANCE WITH ITS PERMITS AND PROCESSING CAPABILITIES.

R E V I S I O N LINE BUSINESS NOTES ** (06/24/97) ** FROM:24

T0:28

SMPL NAME FROM: LONGVIEW FIBRE CO TO: LONGVIEW FIBRE

NATURE BUSINESS FROM: CAROBOARD BOX MFG TO: CARDBOARD

FAC ADDR LINE 1 FROM:5901 E MARGINAL WAY
TO:5901 MARGINAL WAY SO

N O T E S ** (06/2 FROM:PIT SLUDGE, WATER TO:PIT SLUDGE/H20 FROM:000000200 G Q REVISION ** (06/24/97) ** GENERAL DESC

GENERATN AMOUNT TO:000000200 G Y

COMMENT UPDATED FROM REQUEST BULK PICK UP WITH VAC-SERVICE. WASTE WATER & SLUDGE

R E V I S I O N N O T E S MANUAL COMMENT UPDATED FROM ** (06/24/97) ** AUTOMATED COMMENTS AUTOMATED COMMENTS

NOTICE OF LAND DISPOSAL RESTRICTION OF WASTE IS NOT REQUIRED.

*** ACCEPT FOR SHIPMENT

END OF DOCUMENT

ACKNOWLEDGMENT OF RECEIPT OF SAMPLES

TO:

Sonny Bivins Longview Fibre Company 5901 E. Marginal Way S. Seattle, WA 98124

FROM:

Ed Wallace, Project Chemist Columbia Analytical Services, Inc.

This is to inform you that the samples received for testing have been assigned CAS Service Request number K2109499. Please verify information and notify me of any corrections.

A copy of our work order is attached. If you have any questions regarding the status of this work, please call me at (360) 577-7222.

Thank you for your business.

Number of pages - 3 - (including cover sheet).

Columbia Analytical Services, Inc. 1317 South 13th Avenue P.O. Box 479 Kelso, WA 98626 (360) 577-7222 (360) 636-1068 - FAX

[•] During the next few months, you may notice format changes in some of the documents you receive from CAS. However, these documents should contain the same information you are accustomed to receiving.

Columbia Analytical Services -- Kelso INTERNAL LOGIN SUMMARY REPORT (1101) 24-DEC-01 00:28

	·		24-DE	C-01 09:28	•
Service Req. No Client No. Client Name	o. K2109499 125855 Longy: ewig here: Gomeony: 1885	James Standstation Englisher versteller	Project No. Project Name	Longview Fibre Seattle	Bottles: 2 - 500 ml Amber
Bill To:	Longview Fibre-Seattle Box Pla Attn: Accounts Payable 5901 E. Marginal Way S. Seattle, WA 98124	ant	Report To:	tongview Libre Company Sonny Bivins 5901 E. Marginal Way S. Seattle, WA 98124	
P.O. No. Logged in By ISR Num	LV039801 L Apaynter		Site ID Project Chemist	Ed Wallace Professional Company	eski Taki
COC Received Samples Submit	ted 21-DEC-01				Storage: HERK 84
CAS Samp No. (Client Sample No.	Matrix	Collected 0	ueDate F198015	
K2109499-001 K2109499-002 Comments:	North Loading Dock West Parking Los (1915)	HATER 1	6:15 17-DEC-01 07 6:00 17-DEC-01:07	CO-NAL-	。4、1923年的1928年日建設的時期,1920年日本公司的科技學是
125855	cc: Hank Rakoz.				
					•
					•
				•	
	To Be Hazardous: NONE ALL *SD		·····		Reviewed By:

Subject: Seattle Beckart Sludge Sample Date: Fri, 20 Dec 2002 09:46:02 -0800

From: "Frase, Stephen E" <sefrase@longfibre.com> Internal

To: "Mantell James R." < jrmantell@longfibre.com>

Jim

Attached is a Word file (11497.doc) containing the results of a Seattle Beckart sample tested early this month. The metals percentages are based on the ash weight. For this sample, the ash weight times 19.32 equals the as taken sample weight. Thus the percentages of respective total metals on an "as taken" sample basis are the table values divided by 19.32. The highest concentration of any metal, in this case copper, is only 0.0636% based on the "as taken" sample. All metals concentrations are low and are not a concern. Steve

11497.doc

Name: 11497.doc

Type: Microsoft Word Document (application/msword)

Encoding: base64

12/29/2002 22:54 3606361068

Columbia Analytical Services -- Kelso INTERNAL LOGIN SUMMARY REPORT (1101) 30-DEC-02 10:15

Service Req. W Client No. Client Name	125855 Longview Pibre Content	######################################	Project Mame	Seattle Ground Water	BOTTLES: 2 - SOU mil AIMDET
Bill To:	Longview Fibre-Seattle Box Plar Attn: Accounts Payable 5901 E. Marginal Way S. Seattle, WA 98126		Report To:	liongvieuti breitandivi Jim Wantell 5901 E. Marginal Vay S. Seattle, WA 98124	**************************************
P.O. No. Logged In By ISR Mum	LV040784 L TBLACK		Site 10 Project Chemist	Ed:Mattace::::::::::::::::::::::::::::::::::	· · · · · · · · · · · · · · · · · · ·
COC Received Samples Submit	ted 27-DEC-02				Storage: SAM 5
CAS Samp No.	Client Sample No.	Matrix	Collected I	DueDate DX-NultPH	
K2209290-001 K2209290-002	Morth Loading Dock Wedt Pecking Lot 1887 33 1887 1888 1888	WATER WATER	16:10 23-DEC-02 1 13:55:23-DEC-02 1	1 CD-HAL-C EEEEFFSEEFFEEFFEEFFEEFEEFEEFEEFFEEFFEEF	enadytheranakiingaaterakkerikkan kalanakan kalanakan kalangaater k
125855	cc: Hank Rakoz.				
					•
		•			
		•			
		•			
					-
	·				·

No. 11600

				Datc:	08 MAY 2003
Subject:	Sea	ttle Box Plant Water T	reatment Cake Sample		
Keywords:	Tot	al metals, Seattle box p	olant cake, percent sol	ids, percer	nt LOI
Requested b	y:	Dave Mendenhall	Performed by:	C.	Roulette

Source and Description of Sample:

One sample of Press Cake from Seattle Box Plant water treatment, was brought to the lab for analysis on 5/05/03.

Analytical Methods and Procedures:

The sample was dried in a 105° C oven to determine % Solids, then Ashed in a 825°C muffle to determine % LOI. Total Metals were run on the Solaar 969 Spectrometer using the NIOSH method for recoverable metals. Total Metals were calculated using the Dry weight.

Results:

	Press Cake
% Solids	51.84
% LOI	85.98
% by Weight Barium	0.018
% by Weight Chromium	0
% by Weight Copper	0.299
% by Weight Lead	0
% by Weight Zinc	0.107

Lab Book No. 279 Page 76

No. 11497

06 DEC 2002

Subject:

Keywords: Total metals, beckart sludge, percent solids

Requested by:

Steve Frase,

Seattle Beckart Sludge Sample

Performed by:

Colleen Roulette

Dave Mendenhall

Source and Description of Sample:

One sample of Beckart Sludge from Seattle, was brought to the lab for analysis.

Analytical Methods and Procedures:

The sample was dried in a 105° C oven to determine % Solids, then Ashed in a 850°C muffle to determine % LOI. Total Metals were run on the Solaar 969 Spectrometer using the NIOSH method for recoverable metals.

Results:

	Ink Sludge
% Solids	44.11
% LOI	88.06
% by Weight Barium	0.333
% by Weight Chromium	0.002
% by Weight Copper	1.229
% by Weight Lead	0.024
% by Weight Zinc	0.250

Lab Book No. 279 Page 62

ĭ	FCo.	Lah	Service	Mamor	andum

No. 11465

Date: 11 OCT 02

Subject:

Scattle Box Plant Sludge

Keywords: Total metals, Seattle box plant sludge, percent solids, percent LOI

Requested by:

Steve Frase

Performed by:

C. Roulette

Source and Description of Sample:

One sample of sludge from Seattle Box Plant was brought to the project lab for analysis.

Analytical Methods and Procedures:

The sample was dried in a 105° C oven to determine % Solids, then Ashed in a 850°C muffle to determine % LO1. Total Metals were run on the Solaar 969 Spectrometer using the NIOSH method for recoverable metals. Metals were calculated using the ash weight.

	Ink Sludge
% Solids	50.31
% LOI	90.40
% by Wt. Barium	0.270
% by Wt. Chromium	0.0
% by Wt. Copper	0.999
% by Wt. Lead	0.005
% by Weight Zinc	0.204

No. 11315

			Date:	.07 JAN 02
Subject:	Analysis of Sludge Sampl	e from Seattle's Water	Treatment Plant	
Keywords:	Sludge, Total metals, TCI	LP, Solids, LOI		
Requested by	: Dave Mendenhall	Performed by:	Colleen Roulet	te
	escription of Sample:			
One sar	nple of sludge from Seatt	le's water treatment pl	ant was delivered to	the

Analytical Methods and Procedures:

Project Lab for determination of metals, Solids, and LOI.

Total Metals were determined using the NIOSH method for recoverable metals, reported as % by weight. TCLP was determined using the EPA method No. 1311. Solids were determined by drying the sample in a 105°C oven overnight. LOI was determined by ashing the dry solids at 850°C.

SAMPLE	Seattle Sludge
% Solids	43.6
% LOI	87.61
% Barium	.009
% Chromium	.002
% Copper	.045
% Lead	.002
% Zinc	.075
ppm Barium	5.36
ppm Chromium	0.27
ppm Copper	12.33
ppm Lead	0.31
ppm Zinc	39.7

No. 1235

Date: 16 Aug. 01

Subject: Heavy Meals in Boxplant Wastewater Treatment Samples

Keywords: as Title

Requested by: Dave Mendenhall Performed by: Dwayne Van

Source and Description of Sample:

A sample of dewatering filter cake was received from the Seattle boxplant and a sample of treated water from the Oakland boxplant.

Analytical Methods and Procedures:

TCLP was determined for each sample using EPA method no. 1311.

Sample	Seattle	Oakland
ppm Chromium	0.118	0.095
ppm Copper	4.677	3.441
ppm Lead	10.015	0.0
ppm Zinc	2.952	0.404

No. 11199

Date: 01 June 01

Subject: TCLP of Seattle Boxplant Dewatering Sludge

Keywords: TCLP, boxplant waste

Work requested by: Dave Mendenhall Work Performed by: Dwayne Van

Source and Description of Sample:

Sample of dewatering system cake from the Seattle boxplant.

Analytical Methods and Procedures:

TCLP was determined by EPA method no. 1311.

ppm Chromium	0.036
ppm Copper	3.912
ppm Lead	0.083
ppm Zinc	3.515

No. 10780

Date: 22 Oct. 99

Subject:	TCLP	on Seattle Boxplant SI	udge		
Keywords:	as Title				
Requested by:	Dave Mendenhall	Performed by:	Dwayne Van		
	ription of Sample: sample of Seattle boxpl	lant dewatered sludge t	aken 10/13/99.		
•	ods and Procedures: fined using EPA metho	d no. 1311, Results rep	ported as ppm.		
Results:					

ppm Chromium	0.363	
ppm Copper	ND	
ppm Lead	ND	
ppm Zinc	1.539	



May 2, 1995

Service Request No.: K9502215

Sonny Bivin Longview Fibre Company 5901 E. Marginal Ways Seattle, WA 98124

Dear Sonny:

Enclosed are the results of the sample(s) submitted to our laboratory on April 13, 1995. For your reference, these analyses have been assigned our service request number K9502215.

All analyses were performed consistent with our laboratory's quality assurance program. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the samples analyzed.

Please call if you have any questions. My extension is 230.

Respectfully submitted,

Columbia Analytical Services, Inc.

Eileen M. Arnold

Project Chemist

EMA/sam

Dave Mendenhall/Longview Fibre cc: Hank Rakoz/Longview Fibre

Acronyms

ASTM American Society for Testing and Materials

A2LA American Association for Laboratory Accreditation

CARB California Air Resources Board

CAS Number Chemical Abstract Service registry Number

CFC Chlorofluorocarbon
CFU Colony-Forming Unit

DEC Department of Environmental Conservation

DEQ Department of Environmental Quality

DHS Department of Health Services

DOE Department of Ecology
DOH Department of Health

EPA U. S. Environmental Protection Agency

ELAP Environmental Laboratory Accreditation Program

GC Gas Chromatography

GC/MS Gas Chromatography/Mass Spectrometry

LUFT Leaking Underground Fuel Tank

M Modified

MCL Maximum Contaminant Level is the highest permissible concentration of a

substance allowed in drinking water as established by the USEPA.

MDL Method Detection Limit
MPN Most Probable Number
MRL Method Reporting Limit

NA Not Applicable
NAN Not Analyzed
NC Not Calculated

NCASI National Council of the Paper Industry for Air and Stream Improvement

ND Not Detected at or above the MRL

NIOSH National Institute for Occupational Safety and Health

PQL Practical Quantitation Limit

RCRA Resource Conservation and Recovery Act

SIM Selected Ion Monitoring

TPH Total Petroleum Hydrocarbons

tr Trace level is the concentration of an analyte that is less than the PQL but greater

than or equal to the MDL.

00002

acronlst.lj/12/29/94

Analytical Report

Client:

Longview Fibre Company

Project: Sample Matrix: NA Water Service Request: K9502215

Date Collected: 4/12/95
Date Received: 4/13/95

Date Extracted: NA

Inorganic Parameters
Units: mg/L (ppm)

	Analyte: EPA Method: Method Reporting Limit: Date Analyzed:	pH (units) 150.1 - 4/13/95	Biochemical Oxygen Demand (5-Day) 405.1 4 4/14/95	Chemical Oxygen Demand (COD) 410.2 5 4/24/95	Solids, Total Suspended (TSS) 160.2 5 4/19/95	Total Organic Carbon (TOC) 415.1 0.5 4/20/95
Sample Name	Lab Code					
#1 Method Blank	K9502215-001 K9502215-MB	7.06 -	4 -	72 ND	18 ND	16.4 ND

Analytical Report

Client:

Longview Fibre Company

Project:

Sample Matrix: Water

Service Request: K9502215

Date Collected: 4/12/95 Date Received: 4/13/95

Date Extracted: 4/18/95

Total Metals Units: µg/L (ppb)

		Sample Name: Lab Code: Date Analyzed:	# 1 K9502215-001 4/24/95	Method Blank K9502215-MB 4/24/95
	EPA	-		
Analyte	Method	MRL		
Antimony	6010A	50	ND	ND
Arsenic	7060	5	ND	ND
Beryllium	6010A	. 5	ND	ND
Cadmium	6010A	3	ND	ND
Chromium	6010A	5	ND	ND
Copper	6010A	10	39	ND
Iron	6010A	20	612	ND
Lead	7421	2	7	ND .
Manganese	6010A	5	60	ND
Mercury	7470	0.5	ND	ND
Nickel	6010A	20	ND	ND
Selenium	7740	5	ND	ND
Silver	6010A	10	ND	ND
Vanadium	6010A	10	ND	ND
Thallium	7841	5	ND	ND
Zinc	6010A	10	133	ND

Analytical Report

Client:

Longview Fibre Company

Project:

NA

Sample Matrix: Water

Service Request: K9502215

Date Collected: 4/12/95

Date Received: 4/13/95

Date Extracted: 4/24/95

Date Analyzed: 4/25/95

Oil and Grease EPA Method 413.1 Units: mg/L (ppm)

Sample Name	Lab Code	MRL	Result
#1	K9502215-001	1 1	3
Method Blank	K950424-WB		ND

Approved By:

AMRL/102594

Date:

Page No :

LFCo. LAB SERV	VICE MEMORANDUM		No.	9	583
			Date:	_05/0	5/95
	letals Content of			lge c	· · · · · · · · · · · · · · · · · · ·
	to Title				
Work Requested	by: D. Mendenhall	Work	Performed by:	mayne	Van
Source and Des	scription of Sample:	4 Samples	or Sump Stu		
				···	
	Experimental Procedure	•		Ç, r	eash
			····		
RESULTS:		mg/e			· · · · · · · · · · · · · · · · · · ·
	<u>C</u>	Cu	<u>Pb</u>	<u>3</u> n	
151 Printer-	SloHer024	.562	./57	7.25	
183 Flexo	<u></u>	.192	.124	2.89	
	<u> </u>				
185 Flexo	•002	.732	,027	0.96	
	<i>A</i>	.145	. 137	3.74	
	·····				
	······································	***************************************			
			· · · · · · · · · · · · · · · · · · ·		
			· · · · · · · · · · · · · · · · · · ·		
					
				···	



CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

Services 13	17 South 13th	Ave. • Kelso, WA	98626 • (206)	577-72	22 • (800) 69	5-722	2 • F/	4X (20	6) 636	-1068	C	ATE.	1:	-/7	9	5_	PAGE	<u></u>		OF_		
PROJECT NAME		#										ANA	ALY:	SIS I	REQ	UES	STE	D					
PROJECT MANAGER LOW	41100	- Ellers	۰			$\overline{}$	7		§ 7	7	5/2	e 7	7	7	0/	7	7	()	એ 7	_/	\overline{T}	7	
COMPANY/ADDRESS 590	1 C	Mass		ERS				Volatile		8	\$ 8	3 /	ORINCIDO O	Semi Pest			SO4. PO4. F. B.	Joint True	I /	0,000		/	
COMPANY/ADDRESS	11 - 11	11) 000-	1)	ME		્રિકૃ	/	25.00 20.00	3/	100	100	/ 3		i E	(Daylosel)		04	X		§/	/ /	/	
mays Seat	420 L	<u>~4 \ \ 7.</u>		NO.		(§ /	00/	\$ 8 8 P	/_ /	F. 60	18 S		HE	\ <u>%</u> :5	08811	/ .	19. C	iai.	E	12	/ /		
	-0	PHONE	<u>8-762-</u> 7	130				28/2		<i>§8</i>	ואלי					l k		5 /	\$ 6 /	8/			
SAMPLERS SIGNATURE	nyfe	2 year	ing_	BER	Me.	9 6 80				018	8 87	D S			8/8	200			\&\ \	/(5/]
SAMPLE I.D. DATE	TAME 1	LAB I.D.	S-762= SAMPLE MATRIX	NOW		Volatile Orse 270 ganica	Halo 824/8240 601/80-nated	Pesticides/PCS/802/802/802/802/802/802/802/802/802/802	18 E	Ses To Land		THAN OF THE OFFICE OF THE OFFICE OFFI		CHO CON CONTRACTOR		(B)	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			$\frac{2}{3}$		REMARI	ks
# 1 4/12	1'0000	K 2215 -1	water	10			1				, ,	(-	/ <		/		Ž		X	1			
	1.00pm		wa-s	<u>.</u>				_	_									一	-	1			
						$-\dagger$										<u> </u>							
							+									-	-	-	<u> </u>				
				-				\dashv				 					 	-	-	 			
								{	{														
						├─┼─┼─┼─┼─┼─┼─┼─┼─┼																	
					 											·							
				 				-				<u> </u>				 			<u> </u>	<u> </u>			
	<u> </u>							_								<u> </u>	_	<u> </u>	<u> </u>	ļ			
			<u></u>	L	<u> </u>							<u> </u>		<u> </u>			L	<u> </u>	<u> </u>	با	<u> </u>		
RELINGUISHED BY:		ECEIVED BY:)			JIREME				T REQU ino Repo		ENTS	1	INVO	ICE INF	FORMA	TION:		}	S	AMPLE R	ECEIPT:	
Signature	Signature		1 _			orking da			II. Repo	nt (includ	les DUP	MS.	P.O.#						Shippi	ng VIA:			
Printed Name	Printed Na	K. HAW	—— p	rovide V	•	-			char	ged as s	amples)		Bill To						Shippi	ng #;			
Firm	Printed Na		—— l	esulis -					till. Data (incl	Validati Iudes All	on Repo Raw Da	ort Ita)							Condit	ion:			i
	4-13-	-95 11:	Pequeste		•	ninary Re	suits		IV. ÇLP	Delivera	able Rep	oort							Lab No	. K	95 -	2215	
Date/Time	Date/Time																						
RELINQUISHED BY:	Ri	RECEIVED BY: SPECI. Signature Printed Name				ICTION	VS/CC	OMME	NTS:	4	1m	As	Pb	E	4			-					
Signature	Signature		— M	UT	مهيو	- (ت	 > :	. the	P	Ilw	tan	15.	٠ ،	路 F	2/	Mr						
Printed Name	Printed Na	me				۲	(1 DY		1	••			~N	MA	41	131	P						
Firm	Firm												_		• •								
Date/l'ime	Date/Time																						



October 2, 2003

Service Request No: K2307137

Jim Mantell
Longview Fibre Company
5901 E. Marginal Way S.
Seattle, WA 98124

RE: Seattle Water Treatment

Dear Jim:

Enclosed are the results of the sample(s) submitted to our laboratory on September 16, 2003. For your reference, these analyses have been assigned our service request number K2307137.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAC standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3291.

Respectfully submitted,

Columbia Analytical Services, Inc.

Ed Wallace

Project Chemist

EW/jeb

cc:

Page 1 of

Hank Rakoz, Longview Fibre, Longview, WA

Acronyms

ASTM American Society for Testing and Materials

A2LA American Association for Laboratory Accreditation

CARB California Air Resources Board

CAS Number Chemical Abstract Service registry Number

CFC Chlorofluorocarbon
CFU Colony-Forming Unit

DEC Department of Environmental Conservation

DEQ Department of Environmental Quality

DHS Department of Health Services

DOE Department of Ecology
DOH Department of Health

EPA U. S. Environmental Protection Agency

ELAP Environmental Laboratory Accreditation Program

GC Gas Chromatography

GC/MS Gas Chromatography/Mass Spectrometry

LUFT Leaking Underground Fuel Tank

M Modified

MCL Maximum Contaminant Level is the highest permissible concentration of a

substance allowed in drinking water as established by the USEPA.

MDL Method Detection Limit
MPN Most Probable Number
MRL Method Reporting Limit

NA Not Applicable
NC Not Calculated

NCASI National Council of the Paper Industry for Air and Stream Improvement

ND Not Detected

NIOSH National Institute for Occupational Safety and Health

PQL Practical Quantitation Limit

RCRA Resource Conservation and Recovery Act

SIM Selected Ion Monitoring

TPH Total Petroleum Hydrocarbons

tr Trace level is the concentration of an analyte that is less than the PQL but greater

than or equal to the MDL.

Inorganic Data Qualifiers

- The result is an outlier. See case parrative
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- i The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.

Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- B The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
- i The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative
- * The duplicate analysis not within control limits. See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

- The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- i The MRL/MDL has been elevated due to a chromatographic interference.
- X See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the clution pattern of the calibration standard.
- L The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

- Cover Page INORGANIC ANALYSIS DATA PACKAGE

Client:

Longview Fibre Company

Project Name:

Seattle Water Treatment

Project No. :

ΝA

Service Request: K2307137

Sample Name:

#1 9-12-03 #2 9-12-03

Method Blank

Lab Code:

K2307137-001

K2307137-002

K2307137-MB

Comments:

000004

Analytical Report

Client:

Longview Fibre Company Seattle Water Treatment

Project Name: Project No.: Matrix:

NA Water Service Request: K2307137 Date Collected: 09/12/03

Date Collected: 09/12/03 Date Received: 09/16/03 Date Extracted: 09/26/03

Total Metals Units: ug/L (ppb)

•	Analyte:	Copper	Zinc
	EPA Method:	6010B	6010B
	Method Reporting Limit:	10	20
	Date Analyzed:	09/30/03	09/30/03
Sample Name	Lab Code		
#1 9-12-03	K2307137-001	4440	50
#2 9-12-03	K2307137-002	4490	48
Method Blank	K2307137-MB	ND	ND

Comments:

Columbia Analytical					CH	ΙΑΙ	N	OF	С	US	STO)D	Y								SR	#: <u> </u>	, 12.	3t	71	3
An Employee - Owned Company	13	17 South 13t	h Ave. • Ke	lso, WA 9	8626 •	(360)	577-72	222 •	(800) 6	395-72	22x07	• FAX	(360)	636-10	068	F	PAGE	Ē	<i>!</i>	OF	_/	<u>'</u>	_co	C #		
PROJECT NAME SEAFTLE	wiji	12R T	RAYIM	BNI	-	\equiv	1	基验	7	10	1	7	7	7	10	7	T	7	T	\mathcal{T}^{-}	\mathcal{T}	10	\mathcal{T}	7	\\	\mathcal{T}
PROJECT MANAGER	Δα					\dashv			2 /	PIEX	/ /	/ /	10 der []	′ /	81514	′ /	/ /	′ /	/ /	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	(x (x)		' /	' /	cal .	
COMPANY/ADDRESS LONG	M11127					CONTAINER) / Si		The seed of the se	7/3	2	1887	š /	Chlorophia A Ches				Hex-Chir		· §/>	40 X X					/
5901		1420-11				/ ₹ ₹		Volatile C. (1827)			NW. Hollowprint (Flo)	/%	/ ,		PAHS Tella D 9151M	ੀ/ <u>Ş</u>	Cyanic Dissolved			No. 17 (18)	ટ્ટી/ ફે	§ /			/ 5 /	
CITY/STATE/ZIP SIGHTT		wn,	9813			8/		g D	80	. 8 E	E 8		/ క్		16			/ 🏄 /	13.5 13.5 15.5 15.5 15.5 15.5 15.5 15.5	\ã.√	{ } }	/ /	/ ,	/ /	′ /	
JAMANICH WL	oucis	12g, c	021			ς 5		\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \		8 9	80	80		18 4 A		2 010 Z	\$ \frac{1}{6} \frac{1}{6}	/	30/0) (ë, č	DI	′ /		/	/	
PHONE 762-7/7	0	206	767-	2442			8/8					8 T		38/8		જુ \'	(\frac{1}{2}	Q / E	8/2	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	જુ /			/	/ '	
SAMPLE I.D.	Mull	11	LABIB	LAATOW	NUMBED		JE 6					2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2]/ ž	Netal C		Z Z	20 0 × 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		?/		/	/	REMA	ARKS
	DATE	TIME 8:20P	LAB I.D.	MATHIX				/ <u>-</u> %		7~	7	/~~	/~%	/	/_	f	<i>y</i>	(/ <u><</u>	/ 	-	\leftarrow	-	 		
7-12-07					├ ┤			├	-	\vdash	H		 		-	1	├—		-		├	-				
# 2 9-12-03	9/12	8:30 PM	-			67			-		-					~	-	ļ			┢					
	ļ							_	<u> </u>	ļ		ļ	-	<u> </u>				-		<u> </u>	-			<u> </u>		<u> </u>
								_			<u> </u>		_				<u> </u>	<u> </u>			<u> </u>					
					ļ						<u> </u>						_	_					Ĺ			
						2.7			_		<u> </u>										L					
		\ 																								
																_										
						¥																				
	ļ <u>-</u> .																									
REPORT REQUIREM	ENTE	INVO	ICE INFOR	MATIO	4	Circle	which	metals	are to	be an	alyzed:					\	•		<u> </u>		•					
I. Routine Report:		P.O. # _ Bill To:	-			Tol	tal Met	als: Al	As	Sb E	3a Be	ВС	ı Cd	Co	cr 🖏) Fe	Pb I	Mg M	n Mo	Ni	K Aç	Na	Se S	r Ti	Sn v (Žr	Энд
Blank, Surrogate		Biii 10:				Dissol	ved Me	tals: A	l As	Sb I	Ba Be	ВС	a Cd	Со	Cr Cı	ı Fe	Pb	Mg N	in Mo	o Ni	K A	j Na	Se S	Sr Ti	Sn V Zi	n Hg
required						'IND	ICATE	STA	TE H	/DRO	CARB	ON P	ROCE	DURE	: AK	CA	Wi	NO	RTHW	/EST	ŌTH	ER:		_(CIA	CLE ONE	=)
II. Report Dup., MS	S, MSD as	,	OUND RE		ENTS	SPE	CIAL I	NSTP	UCTI	ONS/	COMM	IENTS	3 :													
III. Data Validation I	Report	241 5 D		48 hr.																						•
(includes all raw			ay ndard (10-15	working	days)																			•		
IV. CLP Deliverable	Report	Pro	vide FAX Re	sults																						
V. EDD)							_															
55,000	WED DV:	He	quested Re	on Date		121	<u> </u>		18) (D					- n			_				<u> </u>			
RELINGUIS	9/2/2	9:00	ad Cof	Vim	RECE	W.F.9	BY	9-	16-	0	3		AE	LINGL	JISHEI	U BY:	•					RE	CEIVI	ED BY	1	
Signature	Daig/Jug	VIEW	Sign	Munty p	čh.	7/19	Ale()	R/A		n A	√ Sig	nature	•		Da	te/Tin	ne			Signa	ature			Date/	Time	
Printed Name	Firm		Print	ed Name	3 3	V (]	-Irm	40		۱,۰۰۷	Pri	nted N	ame		Fir	m				Printe	ed Na	me		Firm		

Columbia Analytical Services Inc. Cooler Receipt And Preservation Form

Project/Clie	ent Longview Fit	se_		Work Order K2	23	137-	
	eived on 916.03) an	d opened o	on 916-03	by	Sw)	
-			•			_	
1.	Were custody seals on or If yes, how many and w		ler?	Front			N (Y)
2.	Were seals intact and sig	nature & da	te correct?	•			YN
3.	Is the shipper's airbill av	ailable and f	iled? If no	, record airbill numbe	er:		_ Y N
4.	COC #					•	
	Temperature of cooler(s) upon receip	ot:	185			
	Temperature Blank:			182			
5.	Were custody papers pro	perly filled	out (ink, sig	med, etc/?	,)		YN
6.	Type of packing materia	l present	ad mo	ks / thawco	1)	<u>. </u>	1
7.	Did all bottles arrive in	good condition	on (unbroke	n)?	/		YN
8.	Were all bottle labels co	mplete (i.e.	analysis, pr	eservation, etc.)?			YN
9.	Did all bottle labels and	tags agree w	ith custody	papers?			YY N
10.	Were the correct types of	f bottles used	d for the tes	sts indicated?			YN
11.	Were all of the preserve	d bottles rece	eived at the	lab with the appropria	ate pH?		YN
12.	Were VOA vials checke	d for absence	e of air bub	bles, and if present, n	oted below?		· Y N
13.	Did the bottles originate	from CAS/k	or a branc	ch laboratory?			Y N
14.	Are CWA Microbiology	samples rec	eived with	> 1/2 the 24 hr. hold ti	me remaining fro	om collection?	-Y -N
15.	Was Cl2/Res negative?						YN
Explain any	discrepancies:						
				· · · · · · · · · · · · · · · · · · ·			
			<u></u>				
RESOLUT	ION: OK to	tag f	خن	mm 9/18	3/03	-	
Samples that	required preservation or reco	eived out of te	mperature:			·	
	Sample ID	Reagent	Volume	Lot Number	Bottle Type	Rec'd out of Temperature	Initials
					-		
							
					ļ		
ļ						- 8333	7
1							

CRFREV.DOC3/5/2003





September 11, 2003

Service Request No: K2306511

Jim Mantell Longview Fibre Company 5901 E. Marginal Way S. Seattle, WA 98124

RE: Seattle Water Treatment

Dear Jim:

Enclosed are the results of the sample(s) submitted to our laboratory on August 28, 2003. For your reference, these analyses have been assigned our service request number K2306511.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAC standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3291.

Respectfully submitted,

Columbia Analytical Services, Inc.

Ed Wallace

Project Chemist

EW/jeb

Page 1 of _____

Acronyms

ASTM American Society for Testing and Materials

A2LA American Association for Laboratory Accreditation

CARB California Air Resources Board

CAS Number Chemical Abstract Service registry Number

CFC Chlorofluorocarbon
CFU Colony-Forming Unit

DEC Department of Environmental Conservation

DEQ Department of Environmental Quality

DHS Department of Health Services

DOE Department of Ecology
DOH Department of Health

EPA U. S. Environmental Protection Agency

ELAP Environmental Laboratory Accreditation Program

GC Gas Chromatography

GC/MS Gas Chromatography/Mass Spectrometry

LUFT Leaking Underground Fuel Tank

M Modified

MCL Maximum Contaminant Level is the highest permissible concentration of a

substance allowed in drinking water as established by the USEPA.

MDL Method Detection Limit
MPN Most Probable Number
MRL Method Reporting Limit

NA Not Applicable NC Not Calculated

NCASI National Council of the Paper Industry for Air and Stream Improvement

ND Not Detected

NIOSH National Institute for Occupational Safety and Health

PQL Practical Quantitation Limit

RCRA Resource Conservation and Recovery Act

SIM Selected Ion Monitoring

TPH Total Petroleum Hydrocarbons

tr Trace level is the concentration of an analyte that is less than the PQL but greater

than or equal to the MDL.

Inorganic Data Qualifiers

- . The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- i The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.

Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative
- B. The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- E. The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
- i The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.
- * The duplicate analysis not within control limits. See ease narrative.
- + The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

- The result is an outlier. See case narrative
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- i The MRL/MDL has been elevated due to a chromatographic interference.
- X See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the clution pattern of the calibration standard.
- The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic tingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y

 The chromatographic tingerprint of the sample resembles a petroleum product cluting in approximately the correct carbon range, but the clution pattern does not match the calibration standard.
- Z The chromatographic tingerprint does not resemble a petroleum product.

- Cover Page INORGANIC ANALYSIS DATA PACKAGE

Client:

Longview Fibre Company

Project Name :

Seattle Water Treatment

Project No.:

NΑ

Service Request: K2306511

Sample Name:

#1 8-26-03

#2 8-26-03

Method Blank

Lab Code:

K2306511-001

K2306511-002

K2306511-MB

Comments:

Approved By: Date: 9/0/03

Analytical Report

Client:

Longview Fibre Company Seattle Water Treatment

Project Name : Project No. : Matrix :

NA Water Service Request: K2306511 Date Collected: 08/26/03

Date Collected: 08/26/03 Date Received: 08/28/03 Date Extracted: 09/04/03

Total Metals Units: ug/L (ppb)

	Analyte:	Copper	Zinc
	EPA Method:	6010B	6010B
	Method Reporting Limit:	10	10
	Date Analyzed:	09/09/03	09/09/03
Sample Name	Lab Code		
#1 8-26-03	K2306511-001	12100	1040
#2 8-26-03	K2306511-002	12300	1040
Method Blank	K2306511-MB	ND	ND

Comments:

CHAIN OF CUSTODY

SA#: K2304511

Services INC. An Employee - Owned Company	13	17 South 13t	h Ave. • Ke	lso, WA 9	8626 •	(360) 57	7-7222	(800)	695-72	22x07	• FAX	(360)	636-10	68	P	AGE			OF.			_co	C #		_
PROJECT NUMBER	# W	4TAR	TRIAT	MEX	1 T	$\overline{-}$		1			7	0/	7	8151A	7	7	7	0.188.489.F. W.	~ /	7	10	Τ,	7	///	
PROJECT MANAGER	74W5	il.				7				_/		ģ /	_/				_/,	\ /3	ار 12	3 /	8/				ما
COMPANY/ADDRESS			212 2	رد		CONTAINERS		33 / E	Gas Carbons (* 800 0021 C		/ৡ	-		Q/x	<i>:</i>	Cyanido Chambo	Hex-Chrom C	1/4	ફું/કું.	40× 1889	3/				E
5701			46 co		ć	7 ₹ /	3/1/8	857	<u> </u>	Olo.	_/~	/ \$	[] []	1/5/6	Paro Dores	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	18	/ ^ပ ရို	2/2. §	?/ §	3/	/	/	/ /	F
CITY/STATE/ZIP	TLO	LLXA	981	341	7	8		7/2	૾ૺ ૹૢ૿૽ૣ			/ Š		80	18	lå j	/ ž	80	\$ 5	/ ð́	/ /	/ ,	/ /	' /	Ē
E-MAIL ADDRESS JA PO ALTALI PHONE	. QL	NEF1B.	aq, c	en	$\overline{}$	5	F/08			8 8	HOLEN	9/3	€ ₹		0/2	<u>`````````````````````````````````````</u>	*/č		(<u>)</u>	١٥	' /			/	ł
206 762-71	2 c	72.00	-767-	- 2442	2. / 5			ું જે જે /		٤٤					હું /દૂ		ੂ /ਬੂ	୍ଦ୍ର /ତି		ଚ୍ଚି /			. /		
SAMPLER'S SIGNATURE	TALE	/			NUMBER				? <i>\[\alpha\]</i>	` }/∾,	\$ 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8			1/ \$	\\ <u>\</u>		1/8 ₀	જે/ફ્રેંડ	جَّر /جَ	3/		/	/	/	
SAMPLE I.D.	DAIL	TIME	LAB I.D.	MATRIX					Ches Characters (1888 1987)		\ _{\0} \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\	\@\&	0.5	\ \strace{4}{2}	/ૐ&	<u> </u>	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	8 1 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ð	ot				REMARKS	
#1 8-26-03	8/24	7:50	4		١													I							
d 2 3 -26-03	10.7	3;00 P	71		1	140			1						V										ヿ
	72-6			<u> </u>				+-	┼─	 															\dashv
					-			+-	┼─		 -	\vdash													
									↓	 	<u> </u>							l				ļ			\dashv
						酸					<u> </u>													-	
	}					3.7			1		[- 1							
								\top																	\neg
				<u> </u>	-	21		+	_	 	_	М													ᅱ
					-	22.5	-		+	 		-									├	 			\dashv
				ļ		4.4.4.f			↓ —	<u> </u>												ļ			
						機能			<u> </u>	<u> </u>	<u> </u>										<u> </u>	<u> </u>			4
REPORT REQUIREM	ENTS		ICE INFOR		4	Circle w	hich met	als are t	o be an	alyzed:				_										_	
I. Routine Report: N	Method	_				Total	Metals:	Al As	Sb B	а Ве	ВС	Cd	Co (or Gu	Fe	РЬ М	/lg Mi	т Мо	Ni I	K Ag	Na	Se S	r Ti	Sn V <i>Œ</i> Hg	
Blank, Surrogate,		Diii 10.				Dissolve	d Metals:	Al As	Sb E	Ba Be	ВС	a Cd	Co	or foi	Fe	РЬ В	Mg M	n Mo	NI	K Ag	ı Na	Se S	Sr "TI	Sn v (Źn) Hg	,
required							ATE ST							_										CLE ONE)	\dashv
II. Report Dup., MS,	MSD as	TURNAR	OUND RE	QUIREM	ENTS		AL INST							it											
required		24 1	hr	48 hr.									_(*	٠. ١	Lo	٠.	4	P 400 T		_					
III. Data Vaildation F		5 D	ay																					•	
,	,		ndard (10-15	_	days)																			•	
IV. CLP Deliverable i	пероп	Provide FAX Results																							-
V. EDD																									
RELINQUISHED BY: / REC					RECE	IVED B	¥: /		<u>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</u>			REL	INQU	IISHEI	D BY:			\Box	·		RE	CEIV	ED BY		ヿ
Sand Whall B26.03 10:00 Pm (MANICA CHE					well 8/28/03 /10/1					2				B									.		
The same of the sa					Irll Date/Timbers								Date/Time		Signature			Date/	Time						
Printed Name Firm F1884 C3, Printed Name					Firm Printed Name Firm							Irm Printed Name Firm													

Columbia Analytical Services Inc. Cooler Receipt And Preservation Form

Project/Clie	ent John View	Fibra	2	Work Order K23	661	L	
Cooler rece	eived on	8/03	d opened o	. 8/x/03	by	KW	•
			•				
1.	Were custody seals on or If yes, how many and w		ler?	•		-	Y
2.	Were seals intact and sig	mature & dat	te correct?		1.0	De:	Y/N
3.	Is the shipper's airbill av	ailable and f	iled? If no,	record airbill number	:	70	_ (Y) N
4.	COC#						
	Temperature of cooler(s)) upon receip	ot:	200			
	Temperature Blank:			<u> </u>		. <u></u>	
5 .	Were custody papers pro	perly filled	out (ink, sig	ned, etc.)?			$\left(\begin{array}{c} \left(\begin{array}{c} Y \end{array} \right) \right)$ N
6.	Type of packing materia	present	•	gal	icl-	·	\cup
7.	Did all bottles arrive in g	good condition	on (unbrokei	a)?			N N
8.	Were all bottle labels cor	mplete (i.e.	analysis, pre	eservation, etc.)?			N N
9.	Did all bottle labels and	tags agree w	ith custody	papers?			(A N
10.	Were the correct types o	f bottles used	d for the tes	ts indicated?			(Y) N
11.	Were all of the preserve	d bottles rece	eived at the	lab with the appropriate	te pH?		YN
12.	Were VOA vials checke	d for absence	e of air bubl	oles, and if present, no	ted below?		YW
13.	Did the bottles originate	from CAS/k	or a branc	h laboratory?			Ø N
14.	Are CWA Microbiology	samples rec	eived with	> 1/2 the 24 hr. hold tin	ne remaining fro	m collection?	Y N
15.	Was Cl2/Res negaritye?						
Explain any		int Pin	13 to	-U+ D155	DIVEY W	vetal!	2 0 · · ·
<u>uc .</u>	tspel pr	EVIOU	<u> </u>	S & BOTT	es 1e	Cd, 4	thd WSC
OUL 1	ofar rongfall	<u> </u>	· · · · · · · · · · · · · · · · · · ·				
						 	 .
RESOLUT	-			<u>.</u>			
Samples that	required preservation or reco						
	Sample ID	Reagent	Volume	Lot Number	Bottle Type	Rec'd out of Temperature	Initials
#2		HW23	iml.	140023	500 Ra	J	8
		PS G			11// /////////////////////////////////		
		 					
			MMM				
 		 		166 03 1004 040 9		1097 W.	
ļ — — —	 .	 	1Z 903 ^Z	RACKING HUMBER			
							0007
					C	RFREV.DO	

LFC002164

300 Fibre Way Longview, WA 98632 Phone: 360-575-5570 Fax: 360-575-6110

Longview Fibre Company



To:	Jim I	Mantell	From:	dnmendenhall	
Fax:	206-	767-2442	Date:	November 4, 2003	
Phone:			Pages: 2		
Re:	Sam	ples	CC:		
🛘 Urg	jent	X For Review	☐ Please Comment	☐ Please Reply	☐ Please Recycle
•Com	ments				 -

Jim- results from the samples you sent to me, on the copper levels from the Beckart. As you can see, not a lot of difference between the samples.

Dave

LFCo. Lab Service Memorandum

No. 11708

Date:

03 NOV 2003

Subject:

Seattle Box Plant Water Treatment

Keywords: Copper, Scattle Box Plant, water treatment

Requested by:

Dave Mendenhall

Performed by:

Marvin Martin

Source and Description of Sample:

Four grab samples (below water level), dated 10/22/03, from Seattle Box Plant Water Treatment, labeled 1 through 4, were brought to the Project Lab for analysis.

Analytical Methods and Procedures:

The samples were run on the Unicam 969 AA Spectrometer for analysis of Copper.

Results:

	#1	#2	#3	#4
Date	10/22/03	10/22/03	10/22/03	10/22/03
Time	8:30	9:30	10:45	11:40
ppm Copper	9.31	8.11	8.09	7.79

Lab Book No. 307 Page No. 8

Dave M.

Had 2 bad weeks midring water returned to the seum system. However, 42520 told gellow for I month is not bad.

On you are aware, the copper test
so for he not look good. We are waiting for
several more resultant relum and then must
note a laternization as It what we will be
at our treatment center. Must likely, we
will have to go the route Oakland slid.

10-

Date - 11/03/03 Time - 15:59:53

Page -

Equipment Number	C3-7	52200
------------------	------	-------

Work Order Number

73220

Water	Treatment	System
-------	-----------	--------

Doc Type WO Expensed Work Orders

Description Treated water discharge meter

Order Type D Maint. & Repair WO

Symptoms WEEKLY TREATED WATER DISCHARGED FOR OCTOBER

Symptoms WEERET	TREATED WATER DISCHARGED IN	OK GOT OBEK			
Branch 320	Seattle Box Plant	Equip Type	240	Plant General	
Process 064	Box Plant Misc Buildings	Equip. Subtype			
Equip. Status ANY	Anytime Work	C. C. B			
Dept Assigned 010	Maintenance	C. C. 9			
WO Type GM	General Maintenance	C.C. 10			
Manager 9870	Seattle Box Maintenance	Status	MN	Complete WO	
Supervisor 3070	Perantie, Eric	Priority	3	Medium	
Primary Tech 3070	Perantie, Eric	Business Unit		332350	
Secondary Tech		Parent W.O. No	ı	00073220	
Originator 3070	Perantie, Eric	Estimated Hours	5		
Est Start Date 09/26/	03 Commit Date	Est End Date	11/03/	03 Actual End Date	10/31/03

......Media Object

Meter installed and online

Treated water discharge meter readings for October 03

10-2-03 2890 gals. 115 6 10-10-03 14,450 gals. Crews did 8hrs of clean up on all of the flexos 10-17-03 26,280 gals. Instructions to supervisors and operators to use water save 10-24-03 34,140 gals 3 3 7 0 10-31-03 42,520 gals.

LFCo. Lab Service Memorandum

No. 11708

Date:	03 NOV 2003

Subject: Seattle Box Plant Water Treatment

Keywords: Copper, Seattle Box Plant, water treatment

Requested by: Dave Mendenhall Performed by: Marvin Martin

Source and Description of Sample:

Four grab samples (below water level), dated 10/22/03, from Seattle Box Plant Water Treatment, labeled 1 through 4, were brought to the Project Lab for analysis.

Analytical Methods and Procedures:

The samples were run on the Unicam 969 AA Spectrometer for analysis of Copper.

Results:

	#1	#2	#3	#4
Date	10/22/03	10/22/03	10/22/03	10/22/03
Time	8:30	9:30	10:45	11:40
ppm Copper	9.31	8.11	8.09	7.79

Lab Book No. 307 Page No. 8



August 19, 2003

Service Request No: K2305650

Jim Mantell Longview Fibre Company 5901 E. Marginal Way S. Seattle, WA 98124

RE: Seattle Water Treatment

Dear Jim:

Enclosed are the results of the sample(s) submitted to our laboratory on August 1, 2003. For your reference, these analyses have been assigned our service request number K2305650.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAC standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3291.

Respectfully submitted,

Columbia Analytical Services, Inc.

Wallace

Ed Wallace

Project Chemist

EW/jeb

Page 1 of ____

cc: Hank F

Hank Rakoz, Longview Fibre Dave Mendenhall, Longview Fibre

NELAP Accredited

ACIL Seal of Excellence Award

Acronyms

ASTM American Society for Testing and Materials

A2LA American Association for Laboratory Accreditation

CARB California Air Resources Board

CAS Number Chemical Abstract Service registry Number

CFC Chlorofluorocarbon
CFU Colony-Forming Unit

DEC Department of Environmental Conservation

DEQ Department of Environmental Quality

DHS Department of Health Services

DOE Department of Ecology
DOH Department of Health

EPA U. S. Environmental Protection Agency

ELAP Environmental Laboratory Accreditation Program

GC Gas Chromatography

GC/MS Gas Chromatography/Mass Spectrometry

LUFT Leaking Underground Fuel Tank

M Modified

MCL Maximum Contaminant Level is the highest permissible concentration of a

substance allowed in drinking water as established by the USEPA.

MDL Method Detection Limit
MPN Most Probable Number
MRL Method Reporting Limit

NA Not Applicable
NC Not Calculated

NCASI National Council of the Paper Industry for Air and Stream Improvement

ND Not Detected

NIOSH National Institute for Occupational Safety and Health

PQL Practical Quantitation Limit

RCRA Resource Conservation and Recovery Act

SIM Selected Ion Monitoring

TPH Total Petroleum Hydrocarbons

tr Trace level is the concentration of an analyte that is less than the PQL but greater

than or equal to the MDL.

Inorganic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.

Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative
- B The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
- i The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative
- * The duplicate analysis not within control limits. See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

- The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- i The MRL/MDL has been elevated due to a chromatographic interference.
- X See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the clution pattern of the calibration standard.
- The chromatographic fingerprint of the sample resembles a petroleum product, but the clution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not mutch the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct earbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

- Cover Page INORGANIC ANALYSIS DATA PACKAGE

Client:	
Project	Name
Project	No.:

Longview Fibre Company Seattle Water Treatment

NA NA

Service Request: K2305650

Sample Name :

#1

#2

Method Blank

Lab Code:

K2305650-001 K2305650-002

K2305650-MB

Comments:

00004

Approved By:

__i___

_ Date

LFC002173

Analytical Report

Client :

Longview Fibre Company Seattle Water Treatment

Project Name: Project No.: Matrix:

NA Water Service Request: K2305650

Date Collected: 07/31/03 Date Received: 08/01/03 Date Extracted: 08/06/03

Total Metals Units: ug/L (ppb)

	Analyte: EPA Method: Method Reporting Limit: Date Analyzed:	Copper 6010B 10 08/13/03	Zinc 6010B 10 08/13/03
Sample Name	Lab Code		
#1	K2305650-001	4150	19
#2	K2305650-002	4130	20
Method Blank	K2305650-MB	ND	ND

Comments:

Columbia Analytical Sorvices Inc.
Services No.

CHAIN OF CUSTODY

SR#:	K2305650
	_ COC #
	

Services INC. An Employee - Owned Company	13	17 South 13t	h Ave. • Ke	lso, WA 9	3626 • (36	60) 577-7	222 •	(800) 6	95-722	2x07	• FAX	(360) 6	36-10	68	Р	AGE			OF.			CO	C #_ <u>·</u>	
PROJECT NAME PROJECT NUMBER PROJECT MANAGER PROJECT MANAGER	MANT. 12, N TL4 170	PARGE FARE	-767-	2447	5 E	2/2		14 0 899 8 10 10 10 10 10 10 10 10 10 10 10 10 10	Chief Diesel Chiewy BIEK	Signal (FO)	See Harman See See See See See See See See See Se	D 150 Consension Conse	Alorophe Barries	NAKE THIRD STATE BISTA C	Age 200 SIND	Cyanico (Dissolved	A Cong C. Hox-Chron	14. 18. 18. 18. 18. 18. 18. 18. 18. 18. 18	OX 90.7 (Orale) NO 24NO TAN, TOO	1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	198 D85			9 JULIO
SAMPLE I.D.	7/31/03	TIME	LAB I.D.	MATHIX	不	類	/_°	1			7-4	7 - 6/							<u> </u>	/	/	\leftarrow	_	
[#] 2	731/03	2:15AV				8	 		\vdash			1			Ż				\neg			_		
-	1 2003	2,20			AND THE PARTY OF T	(数) (数)	 -		\vdash						-									
<u> </u>							-		1 1			 					-		_			-		
	 		 		760		-	-				╂─┤												
	ļ			├	16			-				\vdash											 -	
	ļ				163 624	400 400	├	┢				├												
						- T	├	├-													 			
							-	<u> </u>	 			├										igsquare	ļ	
					E		<u> </u>	<u> </u>													L			
					築		<u> </u>	<u></u>				<u> </u>			· .						<u> </u>		L	
REPORT REQUIREM	IENTS		ICE INFOR			Circle which metals are to be analyzed:																		
I. Routine Report:	Method					Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Ti Sn V Zn Hg																		
Blank, Surrogate required	, as				Di	ssolved Me	stals: A	l As	Sb B	a Be	ВС	a Cd	Co	cr 6	ĴFθ	Pb I	Mg M	In Ma	Ni	ΚAς	j Na	Se S	Sr TI	Sn V (Zn) Hg
1	NCD as					NDICAT							DURE	: AK	CA	WI	NO	RTHW	EST	ОТН	ER:		(CIF	CLE ONE)
II. Report Dup., MS required	, MOD as		OUND REG		ENTS S	PECIAL	INSTR	UCTI	ONS/C	MMO	ENTS	5 :												
III. Data Validation F	Report	24 I		48 hr.																				
(includes all raw data) Standard (10-15 working days)		days)	·																					
IV. CLP Deliverable	Report	Pro	vide FAX Re	sults																				
V. EDD																								
	1155 57	Re	quested Reg	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ 																				
RELINGUIS		2145 P	1/1	13 T	RESEIVI	ED BY; 3///	1 5	1700	.			REL	.iNQl	JISHE	HED BY:				RECEIVED BY:					
Signature	Date/Time	1313 M	Cind	120	سيريون	Dale/II	me		-	Sig	nature	,		Da	te/Tin	10			Signa	ture			Date	/Time
Printed Name	Firm	1-70	Print	ed Name	V NV I	Firm	U47	<u></u>	-	Prir	ited N	ame		· 151	m				Printe	d Na	me		Firm	
																								PCOC #1 06/03

COOLER Receipt And LLESCLASTION LOLIN

Project/Cli	em LV Water	<u> Co.</u>		Work Order K2	3	56	50	
Cooler rec	eived on 81-03	ar	nd opened or	8-1-03	by	A Juel	<u>/</u>	
1.	Were custody seals on o		ler?			,	Y (N)	
2.	Were seals intact and sig		te correct?				YN	
3 .	Is the shipper's airbill as	ailable and i	filed? If no,	record airbill numbe	r:		_ (Ŷ) N	
4.	COC#							
	Temperature of cooler(s) upon receir	ot:	93				
	Temperature Blank:			8.1				
5.	Were custody papers pro	perly filled	out (ink, sign	ed, esc _i)?			(Y) N	
6.	Type of packing materia	l present	Wrap,	geluce				
7.	Did all bottles arrive in	good condition	on (unbroken)? •			W W	
8.	Were all bottle labels co	mplete (i.e.	analysis, pres	ervation, etc.)?			Ŷ N	
9.	Did all bottle labels and	tags agree w	ith custody p	apers?			(Y) N	
10.	Were the correct types of	f bottles use	d for the test	indicated?			(Y) N	
11.	Were all of the preserve	d bottles rece	eived at the la	ab with the appropria	ate pH?	•	Y) N	
12.	Were VOA vials checke	d for absence	e of air bubbi	es, and if present, n	oted below?		Y N	
13.	Did the bottles originate from CAS/K or a branch laboratory?							
14.	Are CWA Microbiology samples received with > ½ the 24 hr. hold time remaining from collection?							
15 .	Was Cl2/Res negative?						-1: N	
Explain an	y discrepancies:							
				· · · · · · · · · · · · · · · · · · ·				
		 				·· ····· ·····		
RESOLUT								
Samples ma	required preservation or rec	(·				<u> </u>	
Ī.	Sample ID	Reagent	Volume	Lot Number	Bottle Type	Rec'd out of Temperature	Initials	
A	11 Samples					X	AJ.	
1	· · · · · · · · · · · · · · · · · · ·							
					<u> </u>			
				<u> </u>				
読	UPS Grou	nd				<u> </u>		
e								
						PFREV.DO	DC3/5/2003	
	1Z*90	3 466 03 10 TRACKING HUMBER	003 885 0	1097 🛏		\mathbf{A}	00007	
	\$. \$. \$	1			7			

Subject: RE: Copper in waste water:

Date: Thu, 25 Sep 2003 06:06:21 -0700

From: "Greg O'Brien" < gregob@teleport.com>

To: "Mantell, James R." < irmantell@longfibre.com>, < Gobrien@beckart.com>,

"Craig Thomas D" <tdcraig@longfibre.com>,
"Rogers Belton N." <bnrogers@longfibre.com>

Mr. Mantell,

Thank you for providing this information. Can we meet this coming Monday or Tuesday (Sept. 29 or 30) to discuss a solution to this problem? I am confident that the addition of our Poly V-100 such as Oakland uses will reduce the copper to well within your discharge limitations.

Please call me on my cell phone (503-789-3013) or e-mail me to let me know if a Monday or Tuesday meeting will work with your schedule.

Thank you,

Greg O'Brien Beckart Environmental Inc. 503-789-3013 mailto:Gobrien@beckart.com

----Original Message----

From: Mantell, James R. [mailto:jrmantell@longfibre.com]

Sent: Wednesday, September 24, 2003 5:59 PM

To: Gobrien@beckart.com; Craig Thomas D; Rogers Belton N.

Subject: Copper in waste water:

Gerg:

The information on our waste water stream you asked for. The last test samples for our treated water showed Sample #1 8-26-03 12100 Units: ug/l (ppb) Copper Sample #2 8-26-03 12300 Units: ug/l (ppb) Copper Sample #1 8-25-03 11400 Units: ug/l (ppb) Copper Sample #2 8-25-03 11900 Units: ug/l (ppb) Copper Total metals, water treatment cake sample #5 by weight Copper 0.112

The sample of untreated water showed Sample #1 14.17 ppm copper Sample #2 10.44 ppm copper Our discharge permit allows use to discharge only 3 ppm on a daily average.

As you see we need to set up a meeting as soon as possible to resolve this matter.

Sincerely,

Jim Mantell General Supervisor Longview Fibre LFCo. Lab Service Memorandum

No. 11679

Date: 17 SEPT 2003

Subject:

Seattle Water Treatment Cake Sample

Keywords: Total metals, Seattle cake sample, percent solids, percent LOI

Requested by:

Steve Frase,

Performed by:

Colleen Roulette

Dave Mendenhall

Source and Description of Sample:

One sample of Cake from Seattle water treatment, was brought to the lab for analysis.

Analytical Methods and Procedures:

The sample was dried in a 105° C oven to determine % Solids, then Ashed in a 825°C muffle to determine % LOI. Total Metals were run on the Solaar 969 Spectrometer using the NIOSH method for recoverable metals. Total Metals were calculated using the Dry weight.

Results:

	Ink Sludge
% Solids	47.55
% LOI	92.55
% by Weight Barium	0.002
% by Weight Chromium	0
% by Weight Copper	0.112
% by Weight Lead	0
% by Weight Zinc	0.052

looks good JE7 9/18/2003

Lab Book No. 279 Page 94

300 Fibre Way Longview, WA 98632 Phone: 360-575-5570 Fax: 360-575-6110

Longview Fibre Co



□ Urge	ent	X For Review	☐ Please Comm	nent	☐ Please Reply	☐ Please Recycle
Re:	Cake	e Sample		CCI	<u> </u>	
Phone	<u>. </u>			Pages:	2	<u> </u>
Faxu	206-	767- <u>2442</u>		Date:	September 22, 2003	
To:	Jim f	Mantell - Sec	He.	rom:	David Mendenhall	

Jim- Results of the cake sample (from the Beckart) you sent to us.

LFCo. Lab Service Memorandum

No. 11679

Date:

17 SEPT 2003

Subject:

Scattle Water Treatment Cake Sample

Keywords: Total metals, Seattle cake sample, percent solids, percent LOI

Requested by:

Steve Frase,

Performed by:

Colleen Roulette

Dave Mendenhall

Source and Description of Sample:

One sample of Cake from Seattle water treatment, was brought to the lab for analysis.

Analytical Methods and Procedures:

The sample was dried in a 105° C oven to determine % Solids, then Ashed in a 825°C muffle to determine % LOI. Total Metals were run on the Solaar 969 Spectrometer using the NIOSH method for recoverable metals. Total Metals were calculated using the Dry weight.

Results:

	Ink Sludge
% Solids	47.55
% LOI	92.55
% by Weight Barium	0.002
% by Weight Chromium	0
% by Weight Copper	0.112
% by Weight Lead	0
% by Weight Zinc	0.052

Lab Book No. 279 Page 94

300 Fibre Way Longview, WA 98632 Phone: 360-575-5570 Fax: 360-575-6110





Name:	Tom	Craig/ Jim Mantell	From:	dnmendenhall	
Fax	206	767-2442	Date:	September 10, 2003	
Phone			Pages	2	
Re:	Sam	ple Results	CC:		
🗆 Unge	ent	X For Review	☐ Please Comment	☐ Please Reply	☐ Please Recycle
•Comm	ents	:			
			samples that you sen anything about the me		

Dave

landfill?

LFCo. Lab Service Memorandum

No. 11671

Date:

09 SEPT 2003

Subject:

Seattle Water Treatment Plant Wash-up Water

Keywords: Total metals, Scattle water treatment, wash-up water, solids, LOI

Requested by: Dave Mendenhall

Performed by:

Source and Description of Sample:

Two samples of wash-up water (labeled #1 & #2) from Scattle water treatment plant, was brought to the lab for analysis on approximately 9/04/03.

Analytical Methods and Procedures:

The sample was dried in a 105° C oven to determine % Solids, then Ashed in a 825°C muffle to determine % LOI. Total Metals were run on the Solaar 969 Spectrometer using the NIOSH method for recoverable metals.

Results:

	#1	#2
Date	8/28/03	8/28.03
Time	4:45	4:50
% Solids	12.90	13.21
% LOI	96.41	95.70
ppm Chromium	0.00	0.00
ppm Copper	14.17	10.44
ppm Lead	0.35	0.58
ppm Zinc	70.67	87.19

Lab Book No. 279 Page 92



September 11, 2003

Service Request No: K2306441

Jim Mantell Longview Fibre Company 5901 E. Marginal Way S. Seattle, WA 98124

RE: Seattle Water Treatment

Dear Jim:

Enclosed are the results of the sample(s) submitted to our laboratory on August 27, 2003. For your reference, these analyses have been assigned our service request number K2306441.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAC standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3291.

Hank Rakoz, Longview Fibre, Longview, WA

Respectfully submitted,

Columbia Analytical Services, Inc.

fallace

Ed Wallace Project Chemist

110,000 040

EW/jeb

cc:

Page 1 of ______

NELAP Accredited

ACIL Seal of Excellence Award

Acronyms

ASTM American Society for Testing and Materials

A2LA American Association for Laboratory Accreditation

CARB California Air Resources Board

CAS Number Chemical Abstract Service registry Number

CFC Chlorofluorocarbon
CFU Colony-Forming Unit

DEC Department of Environmental Conservation

DEQ Department of Environmental Quality

DHS Department of Health Services

DOE Department of Ecology
DOH Department of Health

EPA U. S. Environmental Protection Agency

ELAP Environmental Laboratory Accreditation Program

GC Gas Chromatography

GC/MS Gas Chromatography/Mass Spectrometry

LUFT Leaking Underground Fuel Tank

M Modified

MCL Maximum Contaminant Level is the highest permissible concentration of a

substance allowed in drinking water as established by the USEPA.

MDL Method Detection Limit
MPN Most Probable Number
MRL Method Reporting Limit

NA Not Applicable
NC Not Calculated

NCASI National Council of the Paper Industry for Air and Stream Improvement

ND Not Detected

NIOSH National Institute for Occupational Safety and Health

PQL Practical Quantitation Limit

RCRA Resource Conservation and Recovery Act

SIM Selected Ion Monitoring

TPH Total Petroleum Hydrocarbons

tr Trace level is the concentration of an analyte that is less than the PQL but greater

than or equal to the MDL.

Inorganic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.

Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- B The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- E. The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met
- N The Matrix Spike sample recovery is not within control limits. See case nurrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL
- W The post-digestion spike for furnace ΔΔ analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
- i The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.
- * The duplicate analysis not within control limits. See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

- . The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation enteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- i The MRL/MDL has been elevated due to a chromatographic interference.
- X See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- L The chromatographic fingerprint of the sample resembles a petroleum product, but the clution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the clution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y

 The chromatographic fingerprint of the sample resembles a petroleum product cluting in approximately the correct carbon range, but the clution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

- Cover Page INORGANIC ANALYSIS DATA PACKAGE

Client:

Longview Fibre Company

Project Name :

Seattle Water Treatment

Project No.:

NA

Service Request: K2306441

Sample Name:

#1 8/25/03

#2 8/25/03

Method Blank

Lab Code:

K2306441-001

K2306441-002

K2306441-MB

Comments:

Approved By: _______ Date: ______ 91003

Analytical Report

Client : Project Name : Longview Fibre Company Seattle Water Treatment

Project No.: Matrix: NA Water Service Request: K2306441

Date Collected: 08/25/03 Date Received: 08/27/03 Date Extracted: 09/04/03

Total Metals Units: ug/L (ppb)

	Analyte:	Copper	Zinc
	EPA Method:	6010B	6010B
	Method Reporting Limit:	10	10
	Date Analyzed:	09/09/03	09/09/03
Sample Name	Lab Code		
#1 8/25/03	K2306441-001	11400	694
#2 8/25/03	K2306441-002	11900	763
Method Blank	K2306441-MB	ND	ND

Comments:

													#:	K2306441											
Services owned Company	13	17 South 13	th Ave. • Ke	lso, WA 9	98626 •	(360)	577-72	22 • 1	(800) 6	395-72	22x07	• FAX	(360)	636-10	068	F	PAGE	:		OF			co		
PROJECT NUMBER	s ie	ATAR	TRAA	Terib	NT	-/			7			7		Γ,	81514[7	7	7	7	Τ,	/	/	7086	7	7	0000
PROJECT MANAGER	MAN	TRLL				$ \mathcal{I}_{\cdot}$		/		PIEX	_/	7 168 168	⁵ /		8				~ /:		ર્ટુ /	8/			اچ/ /
COMPANY/ADDRESS	Rev	FIBR.	£ C)] <u> </u>			7			\8			Z Z		, /ig			હૈં[ફૂ	\$ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\	3/			/ / 6
S901	B. M	MAGIR	194 401		17 T	/ ₹	/ ***	/\g\&	$i/\{i\}$		JE .	/_	/ å		15.0	۶/ <u>۶</u>		خ /	10.5	3/9-	ع رج	7	/	/	/ /
56ATT	FAMAIL ADDRESS							ğ.	80	/é . j			/ हुँ।		1801	10/	ĮŠ,	/ \$\delta		\ <u>§</u> §	/ Q	/ ,	/ ,	/ /	' /
PHONE		IFAX#			/	ŭ / į		8270 0728 U		8 3	80	हु <u>क</u> ्		\$\$\\		3,0/		~ /		8	0/				/
SAMPLER'S SIGNATURE	1. ter	!/	- 767-			TOF CONTAINER	, John 25		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Ges Clooks (18ee Delow) BTEX	\$ 8 F. F.				1 3	e lake	Cyaning Delow) Dissolved				70' 10' 10' 10' 10' 10' 10' 10' 10' 10' 1)
SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	7 ₹	(C)	100	\ <u>\\\\ \\\ \\\\\\\\\\\\\\\\\\\\\\\\\\\</u>	120		70	\Q.4	148	10.5	2	\ \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	7 5	/ª	/>	<u>/ ~</u>	/_	<u> </u>	<u> </u>	/	REMARKS
71 8-25-03	1/25/63	9:30	ļ							ļ	<u>. </u>					,	 				<u> </u>	ļ	· _	 	ļ
# 2 8-25-03	8/25/03	9:35				gr. E.										✓				<u></u>					<u> </u>
				.	l	松沙		_																<u> </u>	1
]	100										,									
						127					 														1
						98.7.7. 8.3.2.2			 		┼──		 			-					 	 	-	 	-
								\vdash	├	├─					├—	 			 	 	 		├	 	
					 	73.50 3.30 m	-		.	 	├		ļ	.		ļ	 			_	├	 -			
				ļ	<u> </u>					1	ļ	<u> </u>	ļ	ļ			ļ				<u> </u>	<u> </u>		ـــــ	<u> </u>
				<u> </u>	<u> </u>						<u> </u>					<u> </u>	L				<u> </u>				<u> </u>
									<u> </u>	<u> </u>	<u> </u>		L				<u> </u>				L		L	<u> </u>	
REPORT REQUIREM	FNTS		DICE INFOR		N	Circk	which	metals	are to	be an	alyzed:														
1. Routine Report:		_				То	tal Meta	ils: Al	eA	Sb 8	Ba Be	ВСа	e Cd	Co	ci (Ei) Fe	Pb I	Иg М	n Mo	Ni	K Ag	Na	Se S	3r TI	Sn V (Zn) Hg
Blank, Surrogate		Bill 10:													_	_									Sn V (Zn) Hg
required							ICATE								_	-									RCLE ONE)
II. Report Dup., MS	, MSD as	TURNAF	ROUND RE	QUIREM	ENTS		CIAL II																		
required		24	hr	48 hr.																					
	III. Data Validation Report5 Day5																								
IV. CLP Deliverable	Standard (10-15 working days)			days)	s)																				
1 -	IV. CLP Deliverable Report Provide FAX Results V. EDD																								
Requested Report Date																									
RELINGUIS D 20 7	June R Martil 8/25/03 Man					EINED BY: RELINQUISHED BY:												RE	CEIV	ED BY	ſ:				
Signature Date/Time Stageture D				Dath/Time Date/					eate/Time Signature				Date/Time												
Printed Name Firm Froet Co. Printed Name			U/C F	im C	4.4.		-	Printed Name Fir							—	Printed Name				Firm	1				

RCOC #1 06/03

Proiect	Client	6 Kg		Work Order K2	23	64	41
	received on	127/63	id opened or		3 by_	KM	
1.	Were custody seals If yes, how many		oler?	•			Y
2.	Were seals intact a		te correct?			~	у (
3.		_		record airbill numbe	r:((£5.	_ (Ÿ)
1 .	COC#		*				
٠.	Temperature of co	oler(s) unon receit	nt:	3.9			
	Temperature Blank		-				
5,	Were custody pape		out (ink. sier	ned, etc.)?		·	$\left(\left(\right) \right)_{1}$
5.	Type of packing m		·	ail 1	Cl,		
	Did all bottles arriv	-	on (unbroken	1)?			
	Were all bottle lab	els complete (i.e.	analysis, pre	servation, etc.)?			Y
	Did all bottle label	and tags agree w	ith custody p	papers?			
0.	Were the correct ty	pes of bottles use	d for the test	s indicated?			(¥) 1
1.	Were all of the pre	served bottles reco	eived at the l	ab with the appropria	ate pH?		(Y)
2.	Were VOA vials ch	necked for absence	e of air bubb	les, and if present, n	oted below?		- Y 1
3.	Did the bottles orig	inate from CAS/F	or a branch	a laboratory?			(Y)
4.	Are CWA Microbi	ology samples rec	eived with >	> 1/2 the 24 hr. hold ti	me remaining fro	m collection?	Y
5.	Was Cl2/Res negat	/) /	- 0 1-	- / 1 1 1	(1) 20	~ . 0	- Y-
xplain }	any discrepancies:	(1194t	JOHN.) 12+11 f	- 0155 _e	on co	2 -
	NHCS !	02- 70	6 1010	M 45 F	W pri	075	Mol
*	u order						
							
	UTION:						
amples	that required preservation	or received out of te					
	Sample ID	Reagent	Volume	Lot Number	Bottle Type	Rec'd out of Temperature	Initials
					1		

CRFREV.DOC3/5/2003



September 26, 2003

Service Request No: K2306917

Jim Mantell Longview Fibre Company 5901 E. Marginal Way S. Seattle, WA 98124

RE: Seattle Water Treatment Plant

Dear Jim:

Enclosed are the results of the sample(s) submitted to our laboratory on September 10, 2003. For your reference, these analyses have been assigned our service request number K2306917.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAC standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3291.

Respectfully submitted,

Columbia Analytical Services, Inc.

Ed Wallace

Project Chemist

EW/jeb

Page 1 of ____

cc: Hank Rakoz, Longview Fibre

Acronyms

ASTM American Society for Testing and Materials

A2LA American Association for Laboratory Accreditation

CARB California Air Resources Board

CAS Number Chemical Abstract Service registry Number

CFC Chlorofluorocarbon
CFU Colony-Forming Unit

DEC Department of Environmental Conservation

DEQ Department of Environmental Quality

DHS Department of Health Services

DOE Department of Ecology
DOH Department of Health

EPA U. S. Environmental Protection Agency

ELAP Environmental Laboratory Accreditation Program

GC Gas Chromatography

GC/MS Gas Chromatography/Mass Spectrometry

LUFT Leaking Underground Fuel Tank

M Modified

MCL Maximum Contaminant Level is the highest permissible concentration of a

substance allowed in drinking water as established by the USEPA.

MDL Method Detection Limit
MPN Most Probable Number
MRL Method Reporting Limit

NA Not Applicable
NC Not Calculated

NCASI National Council of the Paper Industry for Air and Stream Improvement

ND Not Detected

NIOSH National Institute for Occupational Safety and Health

PQL Practical Quantitation Limit

RCRA Resource Conservation and Recovery Act

SIM Selected Ion Monitoring

TPH Total Petroleum Hydrocarbons

Trace level is the concentration of an analyte that is less than the PQL but greater

than or equal to the MDL.

Inorganic Data Qualifiers

- The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.

Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- B The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- The reported value was determined by the Method of Standard Additions (MSA).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
- i The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.
- The duplicate analysis not within control limits. See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

- The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aidol-condensation product
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- i The MRL/MDL has been elevated due to a chromatographic interference.
- X See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

- Cover Page -INORGANIC ANALYSIS DATA PACKAGE

Client:

Longview Fibre Company Seattle Water Treatment Plant

Project Name:

Project No.:

NA

Service Request: K2306917

Sample Name:

Lab Code:

#1

K2306917-001

#2

K2306917-002

Method Blank

K2306917-MB

Comments:

000004

Date:

Analytical Report

Client: Project Name: Longview Fibre Company Seattle Water Treatment Plant Service Request: K2306917

Date Collected: 09/08/03

Project No.:

NA Water Date Received: 09/10/03 Date Extracted: 09/16/03

Total Metals Units: ug/L (ppb)

	Analyte:	Copper	Zinc
	EPA Method:	6010B	6010B
	Method Reporting Limit:	10	10
	Date Analyzed:	09/24/03	09/24/03
Sample Name	Lab Code		
#1	K2306917-001	2250	243
#2	K2306917-002	2270	291
Method Blank	K2306917-MB	ND	ND

Comments:

Columbia Analytical Services An Employee - Owned Compar	
PROJECT NUMBER	
PROJECT MANAGER	-

CHAIN OF CUSTODY

		ç	sr:	#:	_1	12	Y C	0	91	7	-		
_	OF				•	CO	С	#					
CO 1 28 80 1 100 10	OX (chicle) Volato (chicle) 22		40x 1850.	Dog Top	/	/ /	/	/	/ /			7	
ა _/	/ <u>ð</u>				I		/			RE	MAF	RKS	
T		Π			T								
T		Γ			T								_
1		T	_		T		T						
t		T			T		T	_	t	-	-		_
t		t			+		H		 				
+		H		 	+		┝	-	╁╌	_			_
+		╁		\vdash	+		╁		├				_
+		╀		-	╁		├	_	-				
4		╀	_		╀		L		├				
1		L		L	L				<u> </u>				_
0	NI			Na						٧(
	Ni			Ne		e :			Sn	<u> </u>	Zn	Hg	
N	EST	C	TH	ER:				(CIF	RCLI	E 0	NE)		

Services NC. An Employee - Owned Company		17 South 13t	h Ave. • Ke	lso, WA 9	8626 •	(360)	577-72	22 • (B00) 6	95-722	22x07	• FAX	(360)	636-10	068	F	AGE			OF			CO	C #	
PROJECT NUMBER PROJECT NUMBER PROJECT MANAGER COMPANY/ADDRESS			TRANT	<u>ד</u> גאינוי			Some Some State St		? /	PEXC	7	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		7	81514	7	7/	7 /	1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	7 o° /s	T ; /	2860	7/	7/	/40/
COMPANY/ADDRESS	مرا مدور المرادر مراه ميشور المرا	FIBA	14 C.			CONTAINER				GENERAL CONSTRUCT DESCRIPTION BY	Q	8	ž /							۲) خارق:	\$ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\	<u> </u>			900000
5901					~. <i>!</i>	7 🕺		13%	/ {		<u>o</u> lo	/,8	/ §	2 / 2 / S	£ \ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\	8/ <u>5</u>	Cyanido Cyanow) Dissolved	/ <u> </u>			?/ કું	3/		/ .	/ 宮
CITY/STATE/ZIP S&ATT	LE W	29. 0	28134			₹ /			8				/ Š		16	18		رُقِو ا	38		/ ð	/ /	/ /	/ /	′/ =
BHONE	LONGA	FAX.	CON		_/	δ &			\$8/		80	劉朝	. /¿	£ 60 1		2010		/6	366	18	0/				/
PHONE 762 - 7170 SAMPLER'S SIGNATURE		206	- 7 <i>6</i> 7 -	- 244	<u>2</u> / 8	5/2					£/8	\$ 8	2 3			8 / E	18/18	र् हि	\$\\Z\\Z\\\		§ /				/
SAMPLE I.D.	DATE	TIME	LAB I.D.	IMATRIY	NUMBEC			\200 \200 \200 \200 \200 \200 \200 \200	J S			8 8] *			\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	15	\$\\d	7	/	/	/	REMARKS
# 1	9/8/03	É:15 Pm		MATTIA		(20.70		٩																	
	4/8/07	8:20 %				影響										7									
	70/07	0120		 											-	<u> </u>	-					\vdash			
	-					SALES MANAGEMENT				-						_	-		\vdash					<u> </u>	
				 -	-	# 15 T	-			-	-														
	 					113																			
					ļ	10 (C)																			
				ļ		17.					_														
				ļ	<u> </u>	100				_															
											<u> </u>														<u> </u>
REPORT REQUIREM	IENTS	_	ICE INFOR		4		which			_	•														
1. Routine Report: I	Method					To	tal Meta	ls: Al	As	Sb B	a Be	ВС	Cd	Co	Cr (Cy) Fe	Pb N	/lg M	n Mo	NI I	K Ag	Na	Se S	r Ti	Sn V Zn Hg
Blank, Surrogate						Disso	lved Met	als: Al	As	Sb B	a Be	ВС	a Cd	Со	Cr Cı	u Fe	Pb I	Vig M	in Mo	Ni o	K Ag	Na Na	Se S	Sr TI	Sn V Zn Hg
required	. MCD ac					1	ICATE							DURE	: AH	CA	WI	NO	RTHW	/EST	ОТН	ER:		(CIF	RCLE ONE)
required	, WISD as	TURNAR	ROUND RE	QUIREM 48 hr.	ENTS	SPE	CIAL II	NSTR	UCTI	ONS/C	OMM	IENTS	3:												
III. Data Validation F		50		40 /																					
· ·	(Includes all raw data) Standard (10-15 working days				days)																				
IV. CLP Deliverable Report Provide FAX Results																									
V. EDD	V. EDD Requested Report Date																								125855-
RELINQUIS	DELINOUISHED BY:			REC	EIVED	BY:	,					REI	LING	JISHE	D BY	:					RE	CEIV	ED BY	:	
Signature Montel	Signature Date/Time Signature as		Date/Time Signature Da					Date/Time Signatur			ature			Date	/Time										
Printed Name	Signature Date Time, Signature Signature Firm Printed Name Printed Name		- ₇	CAS im			- }	_	nted N			Fi	Firm Printed Name				Firm								
Printed Name Film Printed Name M																						BCOC #1 06			

Columbia Analytical Services Inc. Cooler Receipt And Preservation Form

Project/C	lient LV Lib	H		Work Order K	23 86917	_							
Cooler re	eceived on 9/10/03	ar	nd opened of	9/10/03	by	a Jue	[[
1.	Were custody seals of If yes, how many ar	on outside of coc			,		Y (N)						
2.	Were seals intact an		te correct?				· · · · · · · · · · · · · · · · · · ·						
3.	Is the shipper's airbi	_		record airbill numb	er: 1105		YN						
	••	iii avanabic and i	писи: П до,	record anom name	1.11		- ' ''						
4.	COC#			in 1									
	Temperature of cool	-	ot:	$\frac{10.\nu}{111}$ –		·							
-	Temperature Blank:			7-1		· · · · · · · · · · · · · · · · · · ·	Q_N						
5.	Were custody paper	· · · A		,			₩ N						
6.	Type of packing ma			ij.			(Ý N						
7.	Did all bottles arrive	_					(₹ N						
8. 9.	Were all bottle label Did all bottle labels	-	• -				Y) N						
9. 10.	Were the correct typ		• •	•			Ø N						
10.		•			iste nH?		G N						
12.	Were all of the preserved bottles received at the lab with the appropriate pH? Were VOA vials checked for absence of air bubbles, and if present, noted below?												
13.	Did the bottles originate from CAS/K or a branch laboratory?												
14.	Are CWA Microbio			•	time remaining fro	om collection?	Y N						
15.	Was Cl2/Res negati			72 200 20 111 2014			YW						
	my discrepancies:												
RESOLU	TION:												
Samples th	nat required preservation o	r received out of te	mperature:										
	Sample ID	Reagent	Volume	Lot Number	Bottle Type	Rec'd out of Temperature	Initials						
					_								
. 🛌													
		·											
UDS L	PS Groun	nd -											
OZ.	46.			# -		0 803	7						
)N°		66 03:1004 05 PACKING HUMBER	52 5	1097 W	(CRFREV.DO							



August 6, 2003

Service Request No: K2305380

Jim Mantell Longview Fibre Company 5901 E. Marginal Way S. Seattle, WA 98124

RE: Seattle Water Treatment

Dear Jim:

Enclosed are the results of the sample(s) submitted to our laboratory on July 23, 2003. For your reference, these analyses have been assigned our service request number K2305380.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAC standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3291.

Respectfully submitted,

Columbia Analytical Services, Inc.

Ed Wallace

Project Chemist

EW/jeb

Page 1 of 7

cc: Hank Rakoz, Longview Fibre

4

NELAP Accredited

ACIL Seal of Excellence Award

Acronyms

ASTM American Society for Testing and Materials

A2LA American Association for Laboratory Accreditation

CARB California Air Resources Board

CAS Number Chemical Abstract Service registry Number

CFC Chlorofluorocarbon
CFU Colony-Forming Unit

DEC Department of Environmental Conservation

DEQ Department of Environmental Quality

DHS Department of Health Services

DOE Department of Ecology
DOH Department of Health

EPA U. S. Environmental Protection Agency

ELAP Environmental Laboratory Accreditation Program

GC Gas Chromatography

GC/MS Gas Chromatography/Mass Spectrometry

LUFT Leaking Underground Fuel Tank

M Modified

MCL Maximum Contaminant Level is the highest permissible concentration of a

substance allowed in drinking water as established by the USEPA.

MDL Method Detection Limit
MPN Most Probable Number
MRL Method Reporting Limit

NA Not Applicable
NC Not Calculated

NCASI National Council of the Paper Industry for Air and Stream Improvement

ND Not Detected

NIOSH National Institute for Occupational Safety and Health

PQL Practical Quantitation Limit

RCRA Resource Conservation and Recovery Act

SIM Selected Ion Monitoring

TPH Total Petroleum Hydrocarbons

tr Trace level is the concentration of an analyte that is less than the PQL but greater

than or equal to the MDL.

Inorganic Data Qualifiers

- The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.

Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- B The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
- i The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.
- * The duplicate analysis not within control limits. See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL
- i The MRL/MDL has been elevated due to a chromatographic interference.
- X See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y

 The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

- Cover Page -INORGANIC ANALYSIS DATA PACKAGE

Client: Project Name: Project No.:	Longview Fibre Company Seattle Water Treatment NA	Service Request: K2305380						
	Sample Name: Water Treatment Sample #1 Water Treatment Sample #2 Method Blank	<u>Lab Code:</u> K2305380-001 K2305380-002 K2305380-MB						
Comments:								
Approved By:	GmA.	Date: 8/5/03	000 u4					

Analytical Report

Client: Project Name: Longview Fibre Company

Seattle Water Treatment NA

Service Request: K2305380 Date Collected: 07/21/03

Project No. : Matrix :

NA Water Date Received: 07/23/03 Date Extracted: 07/28/03

Total Metals Units: ug/L (ppb)

	Analyte: EPA Method:	Copper 6010B	- Zinc 6010B
M	ethod Reporting Limit:	10	10
	Date Analyzed:	08/04/03	08/04/03
Sample Name	Lab Code		
Water Treatment Sample #1	. K2305380-001	3510	197
Water Treatment Sample #2	K2305380-002	3330	171
Method Blank	K2305380-MB	ND	ND

Comments:

Columbia Analytical					СН	ΑI	N ()F	C	บร	STO)D	Υ								SR	#:	<u> </u>	053	80
Services NC.	13	17 South 13t	th Ave. • Ke	lso, WA 9	8626 •	(360) 5	77-72	22 • ((800)	695-72	22x07	• FAX	((360)	636-1	068	F	PAGE	i		OF			CO		
PROJECT NUMBER PROJECT MANAGER	e up	TAR T							7	JEKU /	7	7		7	151AC	7	7	7	//	TKN TO	7 \$\ightarrow	[] 286]	7	7/	
COMPANY/ADDRESS						-/ s		<u> </u>	9/	الم			ģ /	Chlorost Chlorost					0 /u		? /,	$\cap I$			/ Æ
		n FIB.				CONTAINERS		رُجُ ال	3/	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Oil 8 Grand School (FIQ)	188	' /	<u> </u>	8. 81514 D. 81514	§/ <u>5</u>	Cyanid Delow) Dissolved	/ \$	1887. POL. F.		غ/ الْإِ	3/		/	/ /
CITY/STATE/ZIP SSATT		UA.	0012	<u>υγγ ></u> U	·/	E /			/ 6			1/3/m	/ &			/ š	/ <u>\$</u>	/ پر ک	100	を記	ð	7	/ ,	/ /	/ /
E-MAIL ADDRESS JAMANT	RU. W	LONGFI	BRB C		/ ,	ပ္ပဲ 🞉		58/		2 8		EZ/	7 3	15 E		8310 75.	\$ ₹	Z/	30	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	_ /	′ /	/	′ /	/
206.762 - 717	2	TAXA	767-	2 44 7					98	الم في	\[\frac{2}{5}\]	\$ <u>#</u>		\$8/		\$ 13			3/8		ر ا			/	/
SAMPLER'S SIGNATURE					WUMBER		188	Volatile O. 18775	ାଞ୍ଚି		\$/\$°	8/8	နိုုင်း) \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\		F 15		ۇ /ۋ					
SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	[₹]	建設	18 8	\ <u>\$</u>	1	5/QC	7/8	18	\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	§/র্ড,	E 2	\ \$	\$\\ \dot{\dot{\sigma}^2	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	1 × ×		/	/ /	/		REMARKS
SAMPLA "	7/2/03	2:40	,							-	1			П		V									
											1		ſ												<u></u>
CLATER TRANTMOUT SAMPLE # Z	7/2/2	2:4517	7/			1			_	\vdash		 		\dagger		/	-			 -					
SAMPLA #2	7-703	21.17	<u> </u>			in a	-		-	 	\vdash	-	-	┪-		 		-	-	 	-	 			
			ļ			10 A C				╁	 	├	├	 	 	-	 -			 		\vdash			
										<u> </u>	↓	ļ	├-	↓_	.		 	 	<u> </u>	ļ	 	} 			
										<u> </u>	<u> </u>		L	<u> </u>						<u> </u>	<u> </u>				
								I	ŀ		1 .	1		ļ			l								
						100					T														
						363		-		T															
	 					20 A			 	\vdash	+	 	-	 	1	\vdash	-	 		-	 	1-1			
	<u> </u>	INVC	ICE INFOR	MATIO	,	CHEEK.			ــــــــــــــــــــــــــــــــــــــ	<u>. </u>	ــــــــــــــــــــــــــــــــــــــ	<u> </u>	ــــــــــــــــــــــــــــــــــــــ	٠	<u> </u>	<u>. </u>	L	L	Ц	L	ь	<u> </u>		<u> </u>	
REPORT REQUIREM	IENTS	ľ									alyzed:				- (-	-	 .								
I. Routine Report:					[\sim	_									Sn V Zn Hg
Blank, Surrogate required	e, as				— l																		Se S		Sn V(Zn)+g
II. Report Dup., MS	. MSD as	TURNAR	OUND RE	NUREN	CNITO									EDUR	E: A	<u>C/</u>	WI	NO	HTHM	VEST	ОТН	ER:		(CIR	ICLE ONE)
required	•	24		48 hr.	-1113						COMN			-				r .	2 .	/4	<i>. a a</i>	G.	~~~	. سدمراه د	- ALL
III. Data Validation F	Report	5 D			,		40	ر درجر	, v	<i>-</i>		_ ~		<i></i>	43,70 1.1.T	- 12	ر ع	 -> u &	_ T	2.2.	STA.	ہ ک	بر جري	TRA	2 AND
(includes all raw	data)	Sta	ndard (10-1	working	days)	TH	<i>M</i>		عدم	~ <u>~</u>	04		ر سر در در در		W T	יך. בנעי	່ຍ	15 6	110	RCA	2	_			
IV. CLP Deliverable	Report	Pro	vide FAX Re	sults		17	.)	~ /	17	010	,00		,		,	.,					_				
V. EDD			····																						
		I Re	quested Re	ort Date															_						
RELINQUIS		2 204	$_{n}$. 1	RECE		BY: 仏っっ	f.a	ıdz.	ے ا			RE	ELINQ	UISHE	DBY	:		1			RE	CEIV	ED BY	:
Signature	Date/Time	3 3 PM	Sign	ature &	Lark			1 <i>(</i> 2)	1780	-	Sig	natur	е		De	ite/Tir	ne		•	•	ature			_	/Time
Printed Name Firm Printed Name)	_ f	rm				Printed Name Firm Print			ed Na	me		Firm									

RCOC #1 06/03

COURT VECTOR WINE TERM AND TANK

Project/Clie	m hv. Fi	6re		Work Order K2	05380								
Cooler reco	cived on 7/23/	<u>03</u> a	nd opened o	723/05	<u>}</u> by	EW.	· 						
1.	Were custody seals on outside of cooler? If yes, how many and where?												
2.	Were seals intact and signature & date correct?												
3.	Is the shipper's airbill av	vailable and	filed? If no	, record airbill number	- tex	2 W	3 y N						
4.	COC#												
	Temperature of cooler(s) upon receij	pt:	17.									
	Temperature Blank:			·									
5.	Were custody paners monerly filled out (ink. signed, etc.)?												
6.	Type of packing material present MELED ICE PACE												
7.	Did all bottles arrive in	good conditio	on (unbroke	n)?		V	(Y) N						
8.	Were all bottle labels co	mplete (i.e.	analysis, pr	eservation, etc.)?			Y N						
9.	Did all bottle labels and	tags agree w	ith custody	papers?			' (Y) N						
10.	Were the correct types of bottles used for the tests indicated?												
11.	Were all of the preserved bottles received at the lab with the appropriate pH?												
12.	Were VOA vials checked for absence of air bubbles, and if present, noted below?												
13.	Did the bottles originate from CAS/K or a branch laboratory?												
14.	Are CWA Microbiology	samples rec	ceived with	>1/2 the 24 hr. hold tin	ne remaining fro	om collection?	YN						
15.	Was C12/Res negative?	<u>``</u> ,	(01/	ſ	<i>f</i> -	Y N						
Explain any	discrepancies	<u>, Dì</u>	Jut	PH Jul	-10 NO	turg							
	His botte	rest	CIVET	r total MG	t dissell tals-	VRO							
	·						· · · · · · · · · · · · · · · · · · ·						
RESOLUTI	ON:				· — ·								
Samples that	required preservation or rece	ived out of te	imperature:										
	Sample ID	Reagent	Volume	Lot Number	Bottle Type	Rec'd out of Temperature	Initials						
					The state of the s								
	.1:	s Gro	puna		11111111	·}							
	1111		1111111111			-							
	\ \ \\\												
			1Z 903 46	6 03 1003 860 9	LI TI TI TI TON	74							
<u> </u>		181911	1100										

CRFREV.DOC3/5/2003



April 16, 1999

Service Request No: K9902017

Tim Lutzko Longview Fibre Company 5901 E. Marginal Way Seattle, WA 98124

Dear Tim:

Enclosed are the results of the sample(s) submitted to our laboratory on March 31, 1999. For your reference, these analyses have been assigned our service request number K9902017.

All analyses were performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the samples analyzed.

Please call if you have any questions. My extension is 291.

Respectfully submitted,

Lynd Hofe

Columbia Analytical Services, Inc.

Ed Wallace

Project Chemist

EW/td

cc: Hank Rakoz

Page 1 of

Acronyms

ASTM American Society for Testing and Materials

A2LA American Association for Laboratory Accreditation

CARB California Air Resources Board

CAS Number Chemical Abstract Service registry Number

CFC Chlorofluorocarbon
CFU Colony-Forming Unit

DEC Department of Environmental Conservation

DEQ Department of Environmental Quality

DHS Department of Health Services

DOE Department of Ecology
DOH Department of Health

EPA U. S. Environmental Protection Agency

ELAP Environmental Laboratory Accreditation Program

GC Gas Chromatography

GC/MS Gas Chromatography/Mass Spectrometry

J Estimated concentration. The value is less than the method reporting limit, but

greater than the method detection limit.

LUFT Leaking Underground Fuel Tank

M Modified

MCL Maximum Contaminant Level is the highest permissible concentration of a substance

allowed in drinking water as established by the USEPA.

MDL Method Detection Limit
MPN Most Probable Number
MRL Method Reporting Limit

NA Not Applicable
NAN Not Analyzed

NC Not Calculated

NCASI National Council of the Paper Industry for Air and Stream Improvement

ND Not Detected at or above the MRL

NIOSH National Institute for Occupational Safety and Health

PQL Practical Quantitation Limit

RCRA Resource Conservation and Recovery Act

SIM Selected Ion Monitoring

TPH Total Petroleum Hydrocarbons

Trace level is the concentration of an analyte that is less than the PQL but greater

than or equal to the MDL.

Analytical Report

Client:

Longview Fibre Company

Project:

NA

Sample Matrix: Water

--- **,** -----

Service Request: K9902017

Date Collected: 3/10-22/99

Date Received: 3/31/99

Date Extracted: 4/9/99

Total Metals Units: µg/L (ppb)

	•	Sample Name: Lab Code: Date Analyzed:	03/10;7.0 K9902017-001 4/1 4/ 99	03/16;7.5 K9902017-002 4/14/99	03/22;7.5 K9902017-003 4/14/99
	EPA	1407			
Analyte	Method	MRL			
Chromium	6010B	5	ND	ND	ND
Copper	6010B	10	ND	33	ND
Iron	6010B	20	1240	1820	1430
Lead	6010B	50	ND	ND	ND
Zinc	6010B	10	786	1640	880

 m

Date: 4/15/99

00003

Page No.:

Analytical Report

Client:

Longview Fibre Company

Project:

NA

Sample Matrix: Water

Service Request: K9902017

Date Collected: 3/10-22/99
Date Received: 3/31/99

Date Extracted: 4/9/99

Total Metals Units: µg/L (ppb)

		Sample Name: Lab Code: Date Analyzed:	03/11;8.0 K9902017-004 4/1 4/ 99	03/12;7.1 K9902017-005 4/14/99	Method Blank K9902017-MB 4/14/99
	EPA				
Analyte	Method	MRL			
Chromium	6010B	5	ND	ND	ND
Copper	6010B	10	ND	ND	ND
Iron	6010B	20	809	1440	ND
Lead	6010B	50	ND	ND	ND
Zinc	6010B	10	772	773	ND



AmeriChem Testing Laboratory

1761 N. BRIZVIS 34. Orange, CA 92865

FAX: (714) 921-4770

Analytical Report

REPORT NUMBER: SC-6014

CLIENT:

Attn.: Mr. Clayton P. Willison Beckart Environmental, Inc. 7372 Prince Dr., Suite 206 Huntington Beach, CA 92647 REPORT ON: Waste samples Gaylord -Autioch

DATE REPORTED: 04-14-97 DATE RECEIVED: 04-14-97

ANALYSIS

TEST RESULT

mg/l

Before

After

Treatment Treatment

DET. LIMIT METHOD

mg/l

Copper

2.05

0.07

0.05

EPA 220.1

Peter T. Wu Lab Director



Analytical Report

REPORT NUMBER: SC-3433

CLIENT:

Attn.: Mr. Clayton P. Willison Beckart Environmental, Inc. 7372 Prince Dr., Sulte 206 Huntington Beach, CA 92647 REPORT ON: Waste samples Spectrum Label, 11/4/94

DATE REPORTED: 11-07-94 DATE RECEIVED: 11-04-94

ANALYSIS	TEST RI	ESULT	DET. LIMIT	METHOD
	mg/l IN	OUT	mg/l	
			•	
Lead	0.76	0.28	0.05	EPA 239.1
Zine	0.98	ND	0.05	EPA 289.1
Соррет	93.0	1.17	0.05	EPA 220.1
Barium	1.70	0.52	0.50	EPA 208.1

Peter T. Wu
Lab Director

300 Fibre Way Longview, WA 98632 Phone: (360) 575-5570 Fax: (360) 575-5934

Longview Fibre Co.



x Urgent				
	t 🔲 For Review	☐ Please Comment	☐ Please Roply	☐ Please Recycle
Re:	Sample Results	g to me gage to promote me to make a decimal to the contraction of the	[Click here and type	name)
Phone:		Pages:	2	
Fax:	206-768-3609	Date:	February 12, 1999	
To:	Tim Lutzko	From:	Dave Mendenhall	

Tim- Attached to this Fax are the latest results from the water that you sent to me. Sorry about the delay in getting them back to you. We have been very busy in the Main Lab with other projects and the sample got over looked. We will try to do better next time.

Dave

LFCo. Lab Service Memorandum

No.

Date: 12 Feb. 99

Subject: Metals in Scattle Boxplam Wastewater

Keywords: as Title

Work Requested by: Dave Mendenhall

Work Performed by: Dwayne Van

Source and Description of Sample:

A plastic sample cup of treated wastewater from the Seattle boxplant, taken on 1/19/99 was received for testing.

Analytical Methods and Procedures:

The sample was analyzed by flame $\Delta\Delta$, using the Unicam model 969.

Lab Results:

ppm CIROMIUM	0.158
ppm COPPER	0.0
NOSI ingg	3.100
ppin LL(A1)	0.0
ppm ZINC	1.390

3000, DISCHARE

ACKNOWLEDGMENT OF RECEIPT OF SAMPLES

TO:

Jim Mantell Longview Fibre Company 5901 E. Marginal Way S. Seattle, WA 98124

FROM:

Ed Wallace, Project Chemist Columbia Analytical Services, Inc.

This is to inform you that the samples received for testing have been assigned CAS Service Request number K2307137. Please verify information and notify me of any corrections.

A copy of our work order is attached. If you have any questions regarding the status of this work, please call me at (360) 577-7222.

Thank you for your business.

Number of pages - 2 - (including cover sheet).

Columbia Analytical Services, Inc. 1317 South 13th Avenue P.O. Box 479 Kelso, WA 98626 (360) 577-7222 (360) 636-1068 - FAX

^{*} During the next few months, you may notice format changes in some of the documents you receive from CAS. However, these documents should contain the same information you are accustomed to receiving.

Columbia Analytical Services -- Kølso INTERNAL LOGIN SUMMARY REPORT (il01) 22-SEP-03 D9:03

				UL			
Service Req. No. Client No. Client Home	CONTRACTOR		Project No. Project Name	Seat	tle Water	Treatment	Bottles: 2 - 500 ml Red
Bill To:	Longview Fibre-Seattle Box Plent Attn: Accounts Payable 5901 E. Marginal Way S. Seattle, WA 98124		Report To:	Jim) 5901 Seati	lew lb Mantell E. Margi tle, WA	e Company inal Way S. 98124	
P.O. No. Logged in By ISR Mum	LVD40784 L KMORROW		Site ID Project Chemi:	et Ed Y	illace;		
ISR Num COC Received Samples Submitted	Y 1 16-SEP-03						Storage: HERK E3
CAS Samp No. Cli	ient Sample Mo.	Matrix	Callected	DueDate	ICP-2	-DIGEST	
K2307137-001 #1 K2307137-002#2	9-12-03 \$232403	WATER WATER	08:20 12-SEP-03 08:50 12 SEP:03	30-SEP-03	5 (\$565031409	laban t (s.	
Comments:							
K2307137	ICP-2: =Cu,Zn.						
125855	cc: Hank Rakoz,						

						100 100 100 100 100 100 100 100 100 100	
Samples Found 7o	Be Hezardous; #002E ALL *SORE		Pe	age 1 of 1			Reviewed By:

ACKNOWLEDGMENT OF RECEIPT OF SAMPLES

TO

Jim Mantell Longview Fibre Company 5901 E. Marginal Way S. Seattle, WA 98124

FROM:

Ed Wallace, Project Chemist Columbia Analytical Services, Inc.

This is to inform you that the samples received for testing have been assigned CAS Service Request number K2306917. Please verify information and notify me of any corrections.

A copy of our work order is attached. If you have any questions regarding the status of this work, please call me at (360) 577-7222.

Thank you for your business.

Number of pages - 2 - (including cover sheet).

Columbia Analytical Services, Inc. 1317 South 13th Avenue P.O. Box 479 Kelso, WA 98626 (360) 577-7222 (360) 636-1068 - FAX

^{*} During the next few months, you may notice format changes in some of the documents you receive from CAS. However, these documents should contain the same information you are accustomed to receiving.

Columbia Analytical Services -- Kelso INTERNAL LOGIM SUMMARY REPORT (il01) 12-SEP-03 10:31

Service Req. No. Client No. Client Name	K25069737:::::::::::::::::::::::::::::::::::		Project No. Project Name	Seat1	ile Water	· Treatment Plant	Bottles: 2 - 500 ml Red
Bill To:	Longview Fibre-Seattle Box Plant Attn: Accounts Payable 5901 E. Marginal Way S. Seattle, WA 98124		Report To:	5901	neu Fibi lantell E. Hargi lle, HA	B Company Till Till Till Till Till Till Till Til	
P.O. No. Logged In By ISR Num	LV040784 L TBLACK		Site ID Project Chem	ist E@¥	Clace	######################################	:
COC Received Samples Submitted	Y d 10-sep-a3						Storage: RERK Aó
CAS Samp No. Cl	ient Sample No.	Matrix	Collected	DucDate	ICP-2	TDIGEST	
K2306917-001 #1 K2306917-002: #2	? \$	WATER WATER	20:15 08-SEP-0	24-SEP-03	1 5 5500 1 4155		
Comments:				2 - 200 - Y - 00 - 00 - 00 - 00 - 00 - 0			The state of the s
K7306917	ICP-2: ≃Cu,Zn.						
125855	cc: Hank Rakoz.						
							·
				-			
•							
			· ·				
							Secretaria di di
Samples Found To	Be Hazardous: HOMEALL*SORE		F	age 1 of 1			Reviewed By:



Longview Fibre Company

Value-Added Products . Sustainable Forestry

TELECOMMUNICATIONS COVER SHEET

LONGVIEW FIBRE COMPANY 300 FIBRE WAY PO BOX 639 LONGVIEW, WA. 98532

From: STEVE E. FRASE SOLID WASTE ENGINEER phone # (360) 575-5578 fax #'s (360) 575-5934 (switchboard)

Total number of pages including cover page: 2

Date: November 25, 2003

(360) 575-6110 (Environmental Services Dept.)

To: Jim Mantell Seattle Box Plant

Fax # (206) 767-2442

MESSAGE: Colleen just finished lab work on your 6 samples this morning. All copper concentrations are in excess of your new permit limit of 3 PPM. Range 4.55 to 7.18PPM copper. Report follows.

Steve.

LFCo. Lab Service Memorandum

No. 11724

Date:	25	NOV	2003

Subject:

Seattle Box Water Treatment Plant Samples

Keywords: Copper, zinc, heavy metals

Requested by: Dave Mendenhall Performed by: Colleen Roulette

Source and Description of Sample:

Two sets of samples (6 total), from Seattle Box water treatment plant, were brought to the Project Lab for analysis.

Analytical Methods and Procedures:

Metals were run on the Unicam 969 AA Spectrometer.

Results:

Sample	Date	ppm Copper	ppm Zinc				
#1 Decanting	10/31/03						
#2 Decanting	10/31/03	4.62	0.50				
#3 Decanting	10/31/03	4.57	0.51				
#4 Decanting	10/31/03	4.55	0.46				
#1 Mid Decanting 11/03/03		7.18	0.44				
#2 Mid Decanting	11/03/03	7.15	0.40				

LFCo. Lab Service Memorandum

No. 11741

Date:	09 DEC	2003

Subject:

Seattle Water Treatment Plant Decant Samples

Keywords: Copper, zinc, decant, Seattle water treatment

Requested by: Dave Mendenhall Performed by: Collecn Roulette

Source and Description of Sample:

Two samples (decant), dated 12/04/03, from Seattle Box water treatment plant, were brought to the Project Lab for analysis.

Analytical Methods and Procedures:

Metals were run on the Unicam 969 AA Spectrometer.

Results:

Sample	Time	ppm Copper	ppm Zinc
Decant	12:15	1.06	0.85
Decant	12:20	1.05	0.86

ACKNOWLEDGMENT OF RECEIPT OF SAMPLES

TO:

Jim Mantell Longview Fibre Company 5901 E. Marginal Way S. Seattle, WA 98124

FROM:

Ed Wallace, Project Chemist Columbia Analytical Services, Inc.

This is to inform you that the samples received for testing have been assigned CAS Service Request number K2306511. Please verify information and notify me of any corrections.

A copy of our work order is attached. If you have any questions regarding the status of this work, please call me at (360) 577-7222.

Thank you for your business.

Number of pages - 2 (including cover sheet).

Columbia Analytical Services, Inc.
1317 South 13th Avenue
P.O. Box 479
Kelso, WA 98626
(360) 577-7222
(360) 636-1068 - FAX

^{*} During the next few months, you may notice format changes in some of the documents you receive from CAS. However, these documents should contain the same information you are accustomed to receiving.

Columbia Analytical Services -- Kelso INTERMAL LOGIN SUMMARY REPORT (1101) 29-AUG-03 10:30

Bfil 7c: Longview Fibre-Seattle Bax Plant Attrix Accounts Propuble Spot E. Harginal May S. Seattle, MA 98124 P.O. No. L. UV060784 L. Stite ID Project Chemist CEC. Received Samples Substituted 28-AUG-03 CAS Samp No. Client Sample No. Matrix Collected DueDate ICP-2 Toldest Z200511-001 #1 8-26-03 WATER 19:50 26-AUG-03 11-SEP-03 L. Z200511-001 #1 8-26-03 C. Hank Rakoz.	00 ml Red
Logged In By AJUELL Project Chemist Edividited 25-12 Storage: SAM : Samples Submitted 25-AUG-03 Storage: SAM : CAS Samp No. Client Sample No. Matrix Collected DueDate ICP-2 DIGEST K2306511-001 #1 8-26-03 MATER 19:50 26-AUG-03 11-SEP-03 1 K2306511-003 #2:8:26:03 (MATER 19:50 26:AUG-03) MATER 19:50 26:AUG-03 11-SEP-03 1 K2306511-003 #2:8:26:03 (MATER 19:50 26:AUG-03) MATER 19:50 26:AUG-03 MATER	;
Samples Submitted 28-AUG-03 CAS Samp No. Client Sample No.	
K2306511-001 #1 8-26-03 VATER 19:50 26-AUG-03 11-SEP-D3 K2306511-002 #2 8-26-03 K2306511-003 K2306511-003	3
Comments: KZ306511 ICP-2: Cu, 2n. ICP-2: Cu, 2n.	
Comments: K2306511 ICP-2: Cu, 2n.	\$88 \$12 \$
125855 cc: Hank Rakoz.	
C_{0}	
	<u>,</u>
Samples Found to Be Hazardous: HORE_ALL_ "SOME_ Page 1 of 1. Reviewed By:	



Longview Fibre Company

Value-Added Products • Sustainable Forestry

FROM Craig A. McKinney TO

Tom Craig

Subject: Area Monitoring Results for

COPIES: ADW, GLK

Date test Sample Substance

STEL 52 ppm

Ceiling 200 ppm

Time 381

Department

Seattle

Location

Fork Truck 927

Worktype

Moving finnished boxes.

Memo

Sample taken with two drivers across shift change. The concentration shown is the highest fifteen minute average (STEL). The eight hour average (TWA) was 4.7 ppm, and the highest one

minute average (ceiling) was 55 ppm.

Results TWA

200 ppm 52 ppm

385

Department Seattle

Location

Outside shipping office door hung on chain for gas bottles

Worktype

Fork trucks and grab trucks move continuously past this location.

Memo

Sample was taken across shift change. The concentration shown is the highest fifteen minute

average (STEL). The eight hour average (TWA) was 1.8 ppm, and the highest one minute average

(ceiling) was 20 ppm.

12/9/2003 1209033 Carbon Monoxid 13.59 pp 35 ppm

52 ppm

200 ppm

190

Department

Seattle

Location

On post ~4 feet off floor across alley from Ex. 7402 outside Maintenance Foreman Office.

Worktype

Fork trucks and grab trucks move continuously past this location.

Memo

Monitor battery failed after 3 hours. The concentration shown is the highest fifteen minute average (STEL). The eight hour average (TWA) was 2.1 ppm, and the highest one minute average

(ceiling) was 41 ppm.

12/9/2003 1209034 Carbon Monoxid No Data 35 ppm

Department

Seattle

Location

Grab Truck 924

Worktype

Moving rolls of paper.

Memo

Monitor Datalogger card failed. No sample data retrieved.

Wednesday, December 10, 2003

Page 1 of 2

CORPORATE OFFICES

Date test Sample Substance Results TWA STEL Ceiling Time
The result(s) indicate(s) that:

- () Protective equipment must be used. Type:
 - () Equipment change(s) will be evaluated to reduce exposures.
 - () Work practice changes will be evaluated to reduce exposures.
 - () No change in current practices is necessary.
 - () You will be asked to participate in Medical Surveillance Program.
 - (x) No over exposure has occurred.

If you wish to discuss this in more detail, please contact me at your earliest convenience.

Industrial Hygienist

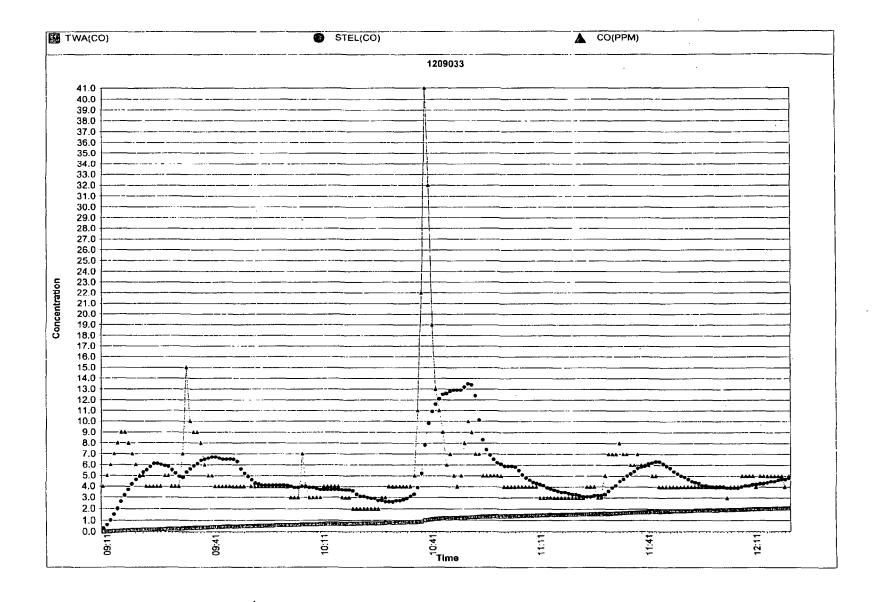
cc: Department Industrial Hygiene Monitoring File at Safety Office

****Please post a copy of these results in the area for two weeks after the date of report. It must be posted within 5 days of the report for lead exposure or 15 days for all other exposures. ****

Abbreviations: ND - Not Detected, mg/m³ - milligrams per cubic meter, ppm - parts per million, short term - less than or equal to 15 minutes, partial shift - greater than 15 minutes but less than 420 minutes, full shift - greater than or equal to 420 minutes.

Instrument: TMX412, S/N: 9712149374 Last calibration date: Dec. 02, 2003 Session starts @ 09:11 Dec. 09, 2003 Session ends @ 12:21 Dec. 09, 2003 Toxic sensor#1 (H2S): Maximum = 0 PPM @ 09:11 Toxic sensor#1 (H2S): Minimum = 0 PPM @ 09:11 Dec. 09, 2003 Dec. 09, 2003 Dec. 09, 2003 Toxic sensor#2 (CO): Maximum = 41 PPM @ 10:40 Toxic sensor#2 (CO): Minimum = 2 PPM @ 10:20 Dec. 09, 2003 O2: Maximum = 21.1 % @ 09:11 Dec. 09, 2003 O2: Minimum = 20.8 % @ 09:17 Dec. 09, 2003 LEL: Maximum = 0 % @ 09:11 Dec. 09, 2003 LEL: Minimum = 0 % @ 09:11 Dec. 09, 2003 Data was logged with TWA time base set to 8 hour(s). Toxic sensor#1 (H2S): Final TWA = 0.00 PPM @ 12:21 Dec. 09, 2003 TWA Alarm = 7 Toxic sensor#2 (CO): Final TWA = 2.09 PPM @ 12:21 Dec. 09, 2003 TWA Alarm = 19STEL: Toxic sensor#1 (H2S): Maximum = 0.0 PPM @ 09:11 Minimum = 0.0 PPM @ 09:11 Dec. 09, 2003 Dec. 09, 2003 STEL Alarm = 11 Toxic sensor#2 (CO): Maximum = 13.5 PPM @ 10:52 Dec. 09, 2003 Minimum = 0.3 PPM @ 09:11 Dec. 09, 2003 STEL Alarm = 39 //Comments//

Dec. 09, 2003 Comment#1 [09:11]: Seattle Box Plant Carbon Monoxide Survey. on post ~4 feet off floor across alley from Eq 7402 outside Maintenance Foreman Office.

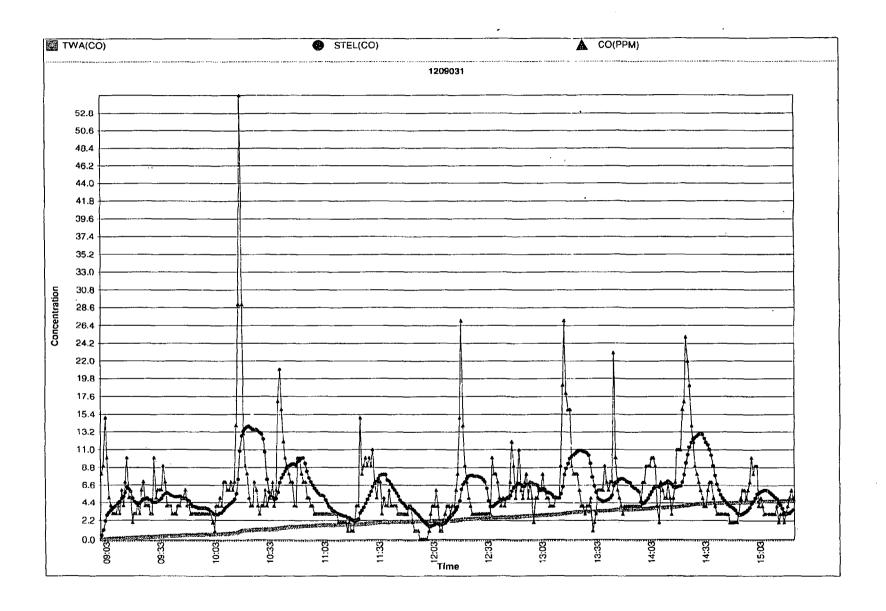


Instrument: TMX412, S/N: 9806035482 Last calibration date: Dec. 03, 2003 Session starts @ 09:03 Dec. 09, 2003 Session ends @ 15:24 Dec. 09, 2003 Toxic sensor#1 (H2S): Maximum = 3 PPM @ 10:00 Dec. 09, 2003 Dec. 09, 2003 Toxic sensor#1 (H2S): Minimum = 0 PPM @ 09:03 Dec. 09, 2003 Toxic sensor#2 (CO): Maximum = 55 PPM @ 10:19 Toxic sensor#2 (CO): Minimum = 0 PPM @ 11:58 Dec. 09, 2003 O2: Maximum = 21.0 % @ 09:03 Dec. 09, 2003 O2: Minimum = 20.7 % @ 14:07 Dec. 09, 2003 LEL: Maximum = 0 % @ 09:03 Dec. 09, 2003 LEL: Minimum = 0 % @ 09:03 Dec. 09, 2003 Data was logged with TWA time base set to 8 hour(s). Toxic sensor#1 (H2S): Final TWA = 1.27 PPM @ 15:24 Dec. 09, 2003 TWA Alarm = 7Toxic sensor#2 (CO): Final TWA = 4.72 PPM @ 15:24 Dec. 09, 2003 TWA Alarm = 19STEL: Toxic sensor#1 (H2S): Maximum = 3.0 PPM @ 14:51 Dec. 09, 2003 Minimum = 0.0 PPM @ 09:03 Dec. 09, 2003 STEL Alarm = 11

Toxic sensor#2 (CO): Maximum = 13.9 PPM @ 10:24 Dec. 09, 2003 Minimum = 0.5 PPM @ 09:03 Dec. 09, 2003 STEL Alarm = 39

//Comments//

Dec. 09, 2003 Comment#1 [09:03]: Seattle Box Plant Carbon Monoxide Survey. On Fork truck 927. Sample taken with two drivers across shift change.



Instrument: TMX412, S/N: 9712149369 Last calibration date: Dec. 04, 2003 Session starts @ 08:59 Dec. 09, 2003 Session ends @ 15:24 Dec. 09, 2003 Toxic sensor#1 (H2S): Maximum = 0 PPM @ 08:59 Dec. 09, 2003 Toxic sensor#1 (H2S): Minimum = 0 PPM @ 08:59 Dec. 09, 2003 Toxic sensor#2 (CO): Maximum = 20 PPM @ 09:05 Dec. 09, 2003 Dec. 09, 2003 Toxic sensor#2 (CO): Minimum = 0 PPM @ 09:20 O2: Maximum = 21.3 % @ 08:59Dec. 09, 2003 02: Minimum = 20.8 % @ 14:31 Dec. 09, 2003 LEL: Maximum = 0 % @ 08:59 Dec. 09, 2003 LEL: Minimum = 0 % @ 08:59 Dec. 09, 2003 Data was logged with TWA time base set to 8 hour(s). Toxic sensor#1 (H2S): Final TWA = 0.00 PPM @ 15:24 Dec. 09, 2003 TWA Alarm = 7Toxic sensor#2 (CO): Final TWA = 1.76 PPM @ 15:24 Dec. 09, 2003 TWA Alarm = 19 STEL: Toxic sensor#1 (H2S): Maximum = 0.0 PPM @ 08:59 Dec. 09, 2003 Minimum = 0.0 PPM @ 08:59 Dec. 09, 2003 STEL Alarm = 11

Toxic sensor#1 (H2S):

Maximum = 0.0 PPM @ 08:59 Dec. 09, 2003

Minimum = 0.0 PPM @ 08:59 Dec. 09, 2003

STEL Alarm = 11

Toxic sensor#2 (CO):

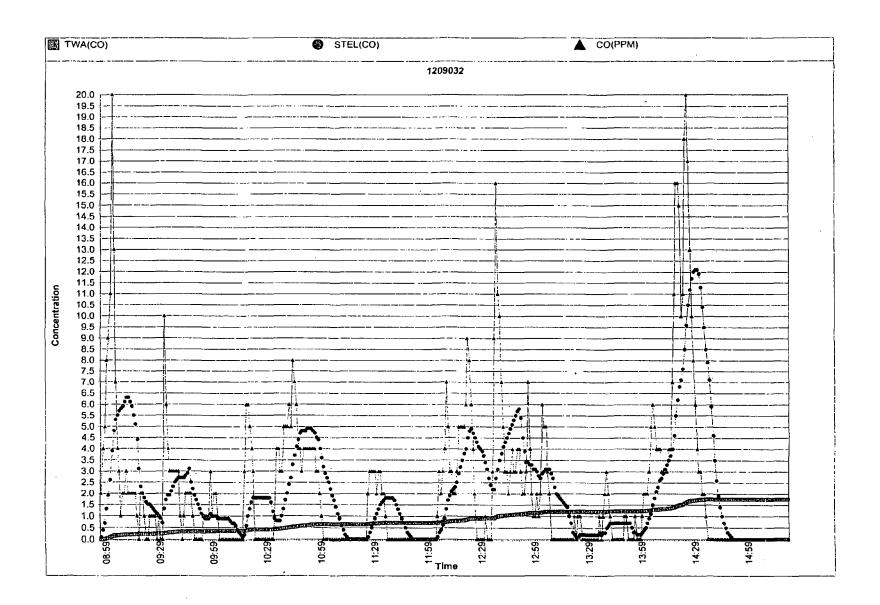
Maximum = 12.1 PPM @ 14:32 Dec. 09, 2003

Minimum = 0.0 PPM @ 11:17 Dec. 09, 2003

STEL Alarm = 39

//Comments//

Dec. 09, 2003 Comment#1 [08:59]: Seattle Box Plant Carbon Monoxide Survey. Area sample outside shipping office door hung on chain for gas bottles.





January 31, 2003

Service Request No: K2209290

Jim Mantell Longview Fibre Company 5901 E. Marginal Way S. Seattle, WA 98124

RE: Seattle Ground Water

Dear Jim:

Enclosed are the results of the sample(s) submitted to our laboratory on December 27, 2002. For your reference, these analyses have been assigned our service request number K2209290.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAC standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3291.

Respectfully submitted,

Columbia Analytical Services, Inc.

Wallaw

Ed Wallace

Project Chemist

EW/jeb

cc:

Hank Rakoz, Longview Fibre

Dave Mendenhall, Longview Fibre

Acronyms

ASTM American Society for Testing and Materials

A2LA American Association for Laboratory Accreditation

CARB California Air Resources Board

CAS Number Chemical Abstract Service registry Number

CFC Chlorofluorocarbon
CFU Colony-Forming Unit

DEC Department of Environmental Conservation

DEQ Department of Environmental Quality

DHS Department of Health Services

DOE Department of Ecology
DOH Department of Health

EPA U. S. Environmental Protection Agency

ELAP Environmental Laboratory Accreditation Program

GC Gas Chromatography

GC/MS Gas Chromatography/Mass Spectrometry

LUFT Leaking Underground Fuel Tank

M Modified

MCL Maximum Contaminant Level is the highest permissible concentration of a

substance allowed in drinking water as established by the USEPA.

MDL Method Detection Limit
MPN Most Probable Number
MRL Method Reporting Limit

NA Not Applicable
NC Not Calculated

NCASI National Council of the Paper Industry for Air and Stream Improvement

ND Not Detected

NIOSH National Institute for Occupational Safety and Health

PQL Practical Quantitation Limit

RCRA Resource Conservation and Recovery Act

SIM Selected Ion Monitoring

TPH Total Petroleum Hydrocarbons

tr Trace level is the concentration of an analyte that is less than the PQL but greater

than or equal to the MDL.

Inorganic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- i The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.

Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- B The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
- i The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.
- * The duplicate analysis not within control limits. See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

- The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- i The MRL/MDL has been elevated due to a chromatographic interference.
- X See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- L The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y
 The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

-Analytical-Results-

Client:

Longview Fibre Company Seattle Ground Water

Project: Sample Matrix:

Water

Service Request: K2209290

Date Collected: 12/23/2002 Date Received: 12/27/2002

Diesel and Residual Range Organics

Sample Name:

North Loading Dock

Lab Code:

K2209290-001

Units: ug/L Basis: NA

Extraction Method:

EPA 3510C

Level: Low

Analysis Method:

NWTPH-Dx

Analyte Name
Diesel Range Organics (DRO)
Residual Range Organics (RRO)

Result						
4100						
2000						

Date

Extraction Lot Note KWG0210923

		 _

Surrogate Name	%Rec	Limits	Analyzed	Note	
o-Terphenyl	77	50-150	01/29/03	Acceptable	
n-Triacontane	85	50-150	01/29/03	Acceptable	

Comments:

Printed: 01/31/2003 15:23:30

U \Stealth\Crystal rpt\Form Im rpt

Merged

Form 1A - Organic

SuperSet Reference.

) of 1 Page

RR24035

Analytical Results-

Client: Project: Longview Fibre Company

Seattle Ground Water

Sample Matrix:

Water

Service Request: K2209290

Date Collected: 12/23/2002

Date Received: 12/27/2002

Diesel and Residual Range Organics

Sample Name: Lab Code:

West Parking Lot

Extraction Method:

Analyte Name

K2209290-002

EPA 3510C

Units: ug/L

Basis: NA

Level: Low

Analysis Method:

NWTPH-Dx

Dilution Date Date Extraction **Factor** Lot Note Extracted Analyzed

MRL Result Q Diesel Range Organics (DRO) 41000 D 2600 10 12/30/02 01/29/03 KWG0210923 Residual Range Organics (RRO) 5800 D KWG0210923 5200 10 12/30/02 01/29/03

Control Date %Rec Limits Note Surrogate Name Analyzed o-Terphenyl 107 50-150 01/29/03 Acceptable n-Triacontane 149 50-150 01/29/03 Acceptable

Comments:

Printed: 01/31/2003 15:23:35

U \Stealth\Crystal.rpt\Form Im.rpt

Merged

Form 1A - Organic

SuperSet Reference:

Page 1 of 1

RR24035 00005

-----Analytical-Results-

Client:

Longview Fibre Company

Service Request: K2209290

Project: Sample Matrix: Seattle Ground Water Water

Date Collected: NA

Date Received: NA

Diesel and Residual Range Organics

Sample Name:

Method Blank

Lab Code:

KWG0210923-5

Units: ug/L

Basis: NA

Extraction Method:

EPA 3510C

Analysis Method:

NWTPH-Dx

Level: Low

•			Dilution	Date	Date	Extraction	
Analyte Name	Result Q	MRL	Factor	Extracted	Analyzed	Lot	Note
Diesel Range Organics (DRO)	ND U	250	1	12/30/02	01/29/03	KWG0210923	
Residual Range Organics (RRO)	ND U	500	1	12/30/02	01/29/03	KWG0210923	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
enyl	88	50-150	01/29/03	Acceptable
n-Triacontane	89	50-150	01/29/03	Acceptable

Printed: 01/31/2003 15:23:40

U \Stealth\Crystal rpt\Form I m.rpt

Merged

Form 1A - Organic

RR24035 SuperSet Reference:

1 of 1

Columbia Analytical		СН	AIN OF	CUS	STOD	Y						:_127		
An Employee-Owned Company	317 South 13th Ave. • K	elso, WA 98626 • (360) 5 <i>77-7222</i> •	(800) 695-72	22x07 • FAX	(360) 636-	1068	PAGI	Ē	OF		co	OC #_	
PROJECT NAME SZATTLE	GROUND	CATRIR	1/2/		7 7	81514		7		[ij]	286	7	7/	
PROJECT MANAGER J.M. M.S. COMPANY/ADDRESS LONGL	WTRLL 144 FIBR	£ C0 /			1684 SGT	1414C)		Da _M ed		100 THE STATE OF T		//		//
5901 B, MARCINAL RHONE # 236 762 - 717 C SAMPLER'S SIGNATURE	FAX# 530711	2 C C C C C C C C C C C C C C C C C C C	ile Contrainers Services by GCANS			80814 Dides	Metals, Total OF SIM [See list]	Serial (Mol)	20, 804, PO 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.0	\$\\ \\$\\ \ \\$\\ \ \ \ \ \ \ \ \ \ \ \ \ \	/ /	' / ,	/ /	/ /
SAMPAER'S SIGNATURE	telf	MBER		SAN	A		HAS BE TO BE	Cyanide Co.		1000 / 2008 / 2		/ /		
SAMPLE I.D. DATE	TIME LAB I.D.	MATRIX / ≥ /	% ~\ <u>~\</u> 	5/QQ/3	/&\&\@\&	OE a	`/ <i>₹®</i> / 	3/4	<i>[</i> [₹ 2]	<u>~</u> /_	/ /			REMARKS
													-	
-		+ + +		 -			1		-	+			+	-
		1_1											<u> </u>	
													Ţ	
	-	1-1-1					 			+-	-	-	-	-
	 	1-1-1		1-1-	 		++	_					+	
REPORT REQUIREMENTS I. Routine Report: Method Blank, Surrogate, as required	INVOICE INFO P.O. # Bill To:		Dissolved Metals: A	As Sb E	Ba Be B Ca	a Cd Co	Cr Cu	Fe Pb	Mg Mn	Mo Ni	K Ag	Na Se	Sr TI	Sn V Zn Hg Sn V Zn Hg RCLE ONE)
il. Report Dup., MS, MSD as required III. Data Validation Report	TURNAROUND RE 24 hr 5 Day		NTS SPECIAL INSTRUCTIONS/COMMENTS: SAMOUES LABERED:											
(includes all raw data) IV. CLP Deliverable Report V. EDD	Standard (10-1		ays) NORTH LOADING DOCK 12/23/62 1610 WEST PARKING LOT 12/23/02 1555											
	Requested Re	eport Date						·					<u></u>	
RELINQUISHED BY: Signature Date/Tim	26-02 G	RECEI Slack	VED BY: Date/Time	1230	Signature		Date	BY:		Signa	ature	RECEI	VED BY	r: -
Printed Name Firm F	1324 20 Prin	nted Name	Firm		Printed N		Fim				ed Nam	10	Firm	n
1														RCOC #1 04/02

Columbia Analytical Services Inc. Cooler Receipt And Preservation Form

Project/Clie	nt LV Fig	RE		_ Work Order K22_0	94290	· 	<u>.</u>		
Cooler recei	ved on 12/27/02 an	d opened on	12/27/0						
1.	Were custody seals on ou	tside of coole				UPS	Y D		
2.	Were seals intact and signature & date correct?								
3.	COC#								
	Temperature of cooler(s)	upon receipt:		11.6		•			
	Temperature Blank:			12.0					
4.	Were custody papers pro	erly filled ou	ıt (ink, signe	d, etc.)?			Y (AT)		
5.	Type of packing material	present	Bus	up, MEN					
6.	Did all bottles arrive in g	ood condition	(unbroken)	?			(Ŷ N		
7.	Were all bottle labels con	mplete (i.e. an	alysis, prese	rvation, etc.)?			Ŷ N		
8.	Did all bottle labels and t	ags agree with	n custody pa	pers?			Y (N)		
9.	Were the correct types of	bottles used i	for the tests i	ndicated?		,	Ø N		
10.	Were all of the preserved	bottles receiv	ed at the lab	with the appropriate pH	?		TN		
11.	. Were VOA vials checked for absence of air bubbles, and if present, noted below?								
12.	Did the bottles originate	from CAS/K	or a branch l	aboratory?			Ø N		
13.	Are CWA Microbiology	samples recei	ved with >	1/2 the 24 hr. hold time r	emaining fro	om collection?	YN		
14.	Was CL2/Residual negat	ive?					YN		
Explain any	discrepancies: N	AMPIS	USTO	ON COL:					
		·					_		
·									
RESOLUT	ION:								
									
Samples tha	t required preservation or	received out o	f temperatur	<u>e:</u>					
	Sample ID	Reagent	Volume	Lot Number	Bottle Type	Rec'd out of Temperature	Initials		
				1					
	·				1				
					ļ				
			-						
					ļ				

CRFREV.DOC12/24/01 00008

ACKNOWLEDGMENT OF RECEIPT OF SAMPLES

TO:

Jim Mantell Longview Fibre Company 5901 E. Marginal Way S. Seattle, WA 98124

FROM:

Ed Wallace, Project Chemist Columbia Analytical Services, Inc.

This is to inform you that the samples received for testing have been assigned CAS Service Request number K2303331. Please verify information and notify me of any corrections.

A copy of our work order is attached. If you have any questions regarding the status of this work, please call me at (360) 577-7222.

Thank you for your business.

Number of pages - 2 - (including cover sheet).

Columbia Analytical Services, Inc. 1317 South 13th Avenue P.O. Box 479 Kelso, WA 98626 (360) 577-7222 (360) 636-1068 - FAX

^{*} During the next few months, you may notice format changes in some of the documents you receive from CAS. However, these documents should contain the same information you are accustomed to receiving.

Columbia Analytical Services -- Kelso INTERNAL LOGIN SUMMARY REPORT (il01) 07-MAY-03 13:22

	1	07-MA	Y-03 13:22	
Service Req. Client No. Client Name	No. K2503331 125855 F019V1 HW Filbre Contients	Project Manie	Seattle Ground Water	Bottles: 2 - 500 ml Amber
Bili To:	Longview Fibre-Seattle Box Plant Attn: Accounts Payable 5901 E. Marginal Way S. Seattle, WA 98124	Report To:	Congylew Fibre Company Jim Mantell 5901 E. Marginal Way S. Seattle, WA 98124	
P.O. No. Logged In By ISR Num	LV040784 L KMORROW	Site ID Project Chemist	Ed Milled Baseline Construction (Section 1988)	
COC Received Samples Sulbmi	tted 05-MAY-03			Storage: SAMSON 64
CAS Samp No.	Client Sample No.	Matrix Collected D	rueDate DX-NWTPH	
K2303331-001 K2303331-002 Comments:	Vest Parking Lot (Korth) Loading Dock	WATER 19:30 01-MAY-03 19	-may-03 I MMAY1035556101 ON FIGHTHERS WAS INTERESTRICTION	NAMES OF STREET OF STREET, STR
125855	cc: Hank Rakoz.			
	•		•	
l				
			•	
Samples Found	To Be Hezardous: NONE ALL *SOME	Page	l of 1	Reviewed By:

LFC002238



March 19, 2001

Service Request No: K2101185

Jim Mantell Longview Fibre Company 5901 E. Marginal Way Seattle, WA 98124

Re: Longview Fibre (Seattle)

Dear Jim:

Enclosed are the results of the sample(s) submitted to our laboratory on February 16, 2001. For your reference, these analyses have been assigned our service request number K2101185.

All analyses were performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the samples analyzed.

Please call if you have any questions. My extension is 3291.

Respectfully submitted,

Columbia Analytical Services, Inc.

Ed Wallace

Project Chemist

EW/gep

Page 1 of _

cc: Hank Rakoz, Longview Fibre Company (Longview)

Dave Mendenhall, Longview Fibre Company (Longview)

Acroi	

ASTM American Society for Testing and Materials

A2LA American Association for Laboratory Accreditation

CARB California Air Resources Board

CAS Number Chemical Abstract Service registry Number

CFC Chlorofluorocarbon
CFU Colony-Forming Unit

DEC Department of Environmental Conservation

DEQ Department of Environmental Quality

DHS Department of Health Services

DOE Department of Ecology
DOH Department of Health

EPA U. S. Environmental Protection Agency

ELAP Environmental Laboratory Accreditation Program

GC Gas Chromatography

GC/MS Gas Chromatography/Mass Spectrometry

LUFT Leaking Underground Fuel Tank

M Modified

MCL Maximum Contaminant Level is the highest permissible concentration of a substance

allowed in drinking water as established by the USEPA.

MDL Method Detection Limit
MPN Most Probable Number
MRL Method Reporting Limit

NA Not Applicable
NC Not Calculated

NCASI National Council of the Paper Industry for Air and Stream Improvement

ND Not Detected

NIOSH National Institute for Occupational Safety and Health

PQL Practical Quantitation Limit

RCRA Resource Conservation and Recovery Act

SIM Selected Ion Monitoring

TPH Total Petroleum Hydrocarbons

tr Trace level is the concentration of an analyte that is less than the PQL but greater

than or equal to the MDL.

Inorganic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- i The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.

Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- B The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- E The reported value is estimated because of the presence of matrix interference.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance
- i The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.
- * The duplicate analysis not within control limits. See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

- The result is an outlier. See case narrative
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- i The MRL/MDL has been elevated due to a chromatographic interference.
- X See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- L The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

Columbia Analytical Services, Inc.

Service Request: K21011	85 Date: March 16, 2001
Product Code: FIQ8015	Matrix: Water
1104401 0042. 1100015	
Yes ⊠ No □	Are all samples analyzed within hold times?
Yes No NA	Are all samples analyzed with GC/MS tune window?
Yes 🛛 No 🗌	Are all calibrations within primary evaluation criteria (including RRF checks)?
Yes 🛛 No 🗌	Are Second Source standards within primary evaluation criteria?
Yes 🛛 No 🗌	Are CCVs within primary evaluation criteria (including RRF Checks)?
Yes 🛛 No 🗌	Are method blanks for all methods <mrl 5%="" less="" of="" or="" results?<="" sample="" td="" than="" the=""></mrl>
Yes 🗌 No 🛛	Are all surrogate recoveries within control criteria?
Yes No NA	Are all internal standard recoveries within control criteria?
Yes 🛭 No 🗌	Are all spike recoveries in MS/DMS samples within control criteria?
Yes 🛛 No 🗌	Are all MS/DMS or DUP RPDs within control criteria?
Yes 🛭 No 🗌	Are all LCS recoveries within control criteria?
Yes No NA	Are RPDs for LCS/DLCS within control criteria?
Yes 🛛 No 🗌	Are all confirmation results within advisory limits (explain all C, P, and N Flags)?
Yes 🗌 No 🔯	Have MRLs been achieved in all samples (note dilutions and matrix interferences)?
Yes 🛛 No 🗌	All results over the calibration range have been reanalyzed at a dilution?
Yes 🗌 No 🛛	No other discussion required (discuss X, Y, and Z flags as needed)?
	For "No" responses see case narrative below.
	7 of the respondence case during the selon.
Signature: Nand	Name: C.LANDAUER
	Name: C.LANDAUER Title: frientist
Date:	Title: Junus

File Path: \\C-KELSO1\REPORTS\\PHC\CASENAR\\HC_SCAN\01185\W.DOC

Columbia Analytical Services, Inc.

Data Validation Notes and Discussion

Surrogate Exceptions

The control criteria were exceeded for the following surrogate in sample West Parking Lot due to matrix interferences: o-Terphyl. The chromatogram showed components that prevented accurate quantitation of the surrogate. No further corrective action was taken.

Sample Notes and Discussion

Samples were analyzed before and after Silica Gel cleanup. Both results are reported, a "CU" suffix has been added to the Silica Gel cleanups.

Elevated MRLs

Sample West Parking Lot had to be diluted because of high level of analyte. The reporting limits have been elevated accordingly.

Analytical Report

Client:

Longview Fibre Company

Service Request: K2101185

Project:

Longview Fibre (Seattle)

Date Collected: 2/14/01

Sample Matrix:

Water

Date Received: 2/16/01

Semivolatile Petroleum Products
Fuel Identification and Quantitation (FIQ) Hydrocarbon Scan

Sample Name:

North Loading Dock

Units: ug/L (ppb)

Lab Code:

K2101185-001

Basis: NA

Test Notes:

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Gasoline	EPA 3510C	8015B	100	1	2/21/01	3/2/01	200	*H
Naphtha Distillate	EPA 3510C	8015B	100	1	2/21/01	3/2/01	ND	*
Jet Fuel as JP-4	EPA 3510C	8015B	100	1	2/21/01	3/2/01	ND	•
Mineral Spirits	EPA 3510C	8015B	100	1	2/21/01	3/2/01	ND	
Jet Fuel as Jet A	EPA 3510C	8015B	100	1	2/21/01	3/2/01	ND	
Kerosene	EPA 3510C	8015B	100	1	2/21/01	3/2/01	ND	
Diesel	EPA 3510C	8015B	100	1	2/21/01	3/2/01	3300	Н
Heavy Fuel Oil	EPA 3510C	8015B	250	1	2/21/01	3/2/01	ND	
Lube Oil	EPA 3510C	8015B	250	1	2/21/01	3/2/01	1400	F

Semi-quantitative. Results are expected to exhibit a low bias due to a potential loss of the volatile components during the extraction procedure.

Approved By: 1S22/020597p

20597p 01185PHC.MMI - 13/16/01 MAR 1 6 2001

Date:

00006

Page No

Analytical Report

Client:Longview Fibre CompanyService Request:K2101185Project:Longview Fibre (Seattle)Date Collected:2/14/01Sample Matrix:WaterDate Received:2/16/01

Semivolatile Petroleum Products
Fuel Identification and Quantitation (FIQ) Hydrocarbon Scan

Sample Name:

North Loading Dock

Units: ug/L (ppb)

Lab Code:

K2101185-001CU

Basis: NA

Test Notes:

Х

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Gasoline	EPA 3510C	8 015B	100	1	2/21/01	3/13/01	ND	*
Naphtha Distillate	EPA 3510C	8015B	100	1	2/21/01	3/13/01	ND	*
Jet Fuel as JP-4	EPA 3510C	8015B	100	1	2/21/01	3/13/01	ND	*
Mineral Spirits	EPA 3510C	8015B	100	1	2/21/01	3/13/01	ND	
Jet Fuel as Jet A	EPA 3510C	8015B	100	1	2/21/01	3/13/01	ND	
Kerosene	EPA 3510C	8015B	100	1	2/21/01	3/13/01	ND	
Diesel	EPA 3510C	8015B	100	1	2/21/01	3/13/01	1600	Н
Heavy Fuel Oil	EPA 3510C	8015B	250	l	2/21/01	3/13/01	ND	
Lube Oil	EPA 3510C	8015B	250	1	2/21/01	3/13/01	80 0	F

X

Extracts had Silica Gel Clean-up

Semi-quantitative. Results are expected to exhibit a low bias due to a potential loss of the volatile components during the extraction procedure.

Approved By: ______ Date: MAR 1 6 2001

00007

Page No

01185PHC MM1 - 1 (2) 3/16/01

Analytical Report

Client:

Longview Fibre Company Longview Fibre (Seattle)

Service Request: K2101185 Date Collected: 2/14/01

Project: Sample Matrix:

Water

Date Received: 2/16/01

Semivolatile Petroleum Products Fuel Identification and Quantitation (FIQ) Hydrocarbon Scan

Sample Name:

West Parking Lot

Units: ug/L (ppb)

Lab Code: -

K2101185-002

Basis: NA

Test Notes:

Amalada	Prep	Analysis	Leny	Dilution	Date	Date	D 14	Result
Analyte	Method	Method	MRL	Factor	Extracted	Analyzed	Result	Notes
Gasoline	EPA 3510C	8015B	100	1	2/21/01	3/2/01	14000	*H
Naphtha Distillate	EPA 3510C	8015B	100	1	2/21/01	3/2/01	ND	*
Jet Fuel as JP-4	EPA 3510C	8015B	100	1	2/21/01	3/2/01	ND	•
Mineral Spirits	EPA 3510C	8015B	100	1	2/21/01	3/2/01	ND	
Jet Fuel as Jet A	EPA 3510C	8015B	100	1	2/21/01	3/2/01	ND	
Kerosene	EPA 3510C	8015B	100	1	2/21/01	3/2/01	ND	
Diesel	EPA 3510C	8015B	1000	10	2/21/01	3/2/01	67000	DH
Heavy Fuel Oil	EPA 3510C	8015B	250	1	2/21/01	3/2/01	ND	
Lube Oil	EPA 3510C	8015B	250	1	2/21/01	3/2/01	7500	F

Semi-quantitative. Results are expected to exhibit a low bias due to a potential loss of the volatile components during the extraction procedure.

	10	_	MAR 1	6	2001
Approved By:	/\bar{k}	Date:			
\$22/020597n	•				

00008

01185PHC MM1 - 2 3/16/01

Page No :

Analytical Report

Client:

Longview Fibre Company Longview Fibre (Seattle)

Project: Sample Matrix:

Water

Service Request: K2101185

Date Collected: 2/14/01 Date Received: 2/16/01

Semivolatile Petroleum Products Fuel Identification and Quantitation (FIQ) Hydrocarbon Scan

Sample Name:

West Parking Lot

Lab Code:

K2101185-002CU

Test Notes:

Х

Units: ug/L (ppb) Basis: NA

Analyte	Prep Method	Analysis Metbod	MRL	Dilution Factor	Date Extracted	Date . Analyzed	Result	Result Notes
Gasoline	EPA 3510C	8015B	100	1	2/21/01	3/13/01	12000	*H
Naphtha Distillate	EPA 3510C	8015B	100	1	2/21/01	3/13/01	ND	•
Jet Fuel as JP-4	EPA 3510C	8015B	100	1	2/21/01	3/13/01	ND	*
Mineral Spirits	EPA 3510C	8015B	100	. 1	2/21/01	3/13/01	ND	
Jet Fuel as Jet A	EPA 3510C	8015B	100	1	2/21/01	3/13/01	ND	
Kerosene	EPA 3510C	8015B	100	1	2/21/01	3/13/01	ND	
Diesel	EPA 3510C	8015B	1000	10	2/21/01	3/14/01	66000	DF
Heavy Fuel Oil	EPA 3510C	.8015B	250	1	2/21/01	3/13/01	ND '	
Lube Oil	EPA 3510C	8015B	250 "	1	2/21/01	3/13/01	4800	F -

Х

Extracts had Silica Gel Clean-up

Semi-quantitative. Results are expected to exhibit a low bias due to a potential loss of the volatile components during the extraction procedure.

Approved By:	K	Date:	MAR 1 6 200
1522/0205976			

01185PHC MM1 - 2 (2) 3/15/01

Analytical Report

Client:

Longview Fibre Company Longview Fibre (Seattle) Service Request: K2101185

Date Collected: NA

Project: Sample Matrix:

Water

Date Received: NA

Semivolatile Petroleum Products
Fuel Identification and Quantitation (FIQ) Hydrocarbon Scan

Sample Name:

Method Blank

Units: ug/L (ppb)

Lab Code:

K010221-WB

Basis: NA

Test Notes:

•								
	Prep	Analysis		Dilution	Date	Date		Result
Analyte	Method	Method	MRL	Factor	Extracted	Analyzed	Result	Notes
Gasoline	EPA 3510C	8015B	100	1	2/21/01	3/1/01	ND	*
Naphtha Distillate	EPA 3510C	8015B	100	1	2/21/01	3/1/01	ND	•
Jet Fuel as JP-4	EPA 3510C	8015B	100	1	2/21/01	3/1/01	ND	*
Mineral Spirits	EPA 3510C	8015B	100	1	2/21/01	3/1/01	ND	
Jet Fuel as Jet A	EPA 3510C	8015B	100	1	2/21/01	3/1/01	ND	
Kerosene	EPA 3510C	8015B	100	1	2/21/01	3/1/01	ND	
Diesel	EPA 3510C	8015B	100	1	2/21/01	3/1/01	ND	
Heavy Fuel Oil	EPA 3510C	8015B	250	1	2/21/01	3/1/01	ND	
Lube Oil	EPA 3510C	8015B	250	1	2/21/01	3/1/01	ND	

Semi-quantitative. Results are expected to exhibit a low bias due to a potential loss of the volatile components during the extraction procedure.

Approved By:	M	Date: _	MAR 1	ĥ	200
L POR MORCO					

00010

01185PHC MM1 - MB 3/15/01

Page No

Analytical Report

Client:

Longview Fibre Company Longview Fibre (Seattle) Service Request: K2101185
Date Collected: NA

Project: Sample Matrix:

Water

Date Received: NA

Semivolatile Petroleum Products
Fuel Identification and Quantitation (FIQ) Hydrocarbon Scan

Sample Name:

Method Blank

Units: ug/L (ppb)

Lab Code:

K010221-WBCU

Basis: NA

Test Notes:

X

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Gasoline	EPA 3510C	8015B	100	1	2/21/01	3/13/01	ND	*
Naphtha Distillate	EPA 3510C	8015B	100	1	2/21/01	3/13/01	ND	*
Jet Fuel as JP-4	EPA 3510C	8015B	100	1	2/21/01	3/13/01	ND	*
Mineral Spirits	EPA 3510C	8015B	100	1	2/21/01	3/13/01	ND	
Jet Fuel as Jet A	EPA 3510C	8015B	100	1	2/21/01	3/13/01	ND	
Kerosene	EPA 3510C	8015B	100	1	2/21/01	3/13/01	ND	
Diesel	EPA 3510C	8015B	100	1	2/21/01	3/13/01	ND	
Heavy Fuel Oil	EPA 3510C	8015B	250	1	2/21/01	3/13/01	ND	
Lube Oil	EPA 3510C	8015B	250	1	2/21/01	3/13/01	ND	

Х

Extracts had Silica Gel Clean-up

.

Semi-quantitative. Results are expected to exhibit a low bias due to a potential loss of the volatile components during the extraction procedure.

Approved By:	M	Date:	MAR	16	2001
1522/020597p	r				

00011

01185PHC MM1 - MB (2) 3/15/01

Page No

QA/QC Report

Client:

Longview Fibre Company

Project:

Longview Fibre (Seattle)

Sample Matrix:

Water

Service Request: K2101185 Date Collected: 2/14/01

Date Received: 2/16/01 Date Extracted: 2/21/01

Date Analyzed: 3/1-13/01

Surrogate Recovery Summary

Fuel Identification and Quantitation (FIQ) Hydrocarbon Scan

Prep Method:

EPA 3510C

Units: PERCENT Basis: NA

Analysis Method: 8015B

Sample Name	Lab Code	Test Notes	Perc o-Terphenyl	ent Recov	ery n-Triacontane
North Loading Dock	K2101185-001		72	49	72
West Parking Lot	K2101185-002	٠.	0 #	81	62
Method Blank	K010221-WB		72	53	71
North Loading Dock	K2101185-001CU		70	43	68
West Parking Lot	K2101185-002CU		0 #	68	58
Method Blank	K010221-WBCU		68	51	69

CAS Acceptance Limits:

50-150

20-150

50-150

MAR 1 6 2001 Approved By:

SUR3/020597p

01185PHC MM1 - SUR 3/15/01

00012

Page No.

LOIUMDIA	2
Analytic	:al
Services	INC.

CHAIN OF CUSTODY

SR#:	421	01	185
, ,			

Services **	- c. 13	317 South 13	th Ave. ● Ke	lso, WA 9	8626	(360)	577-72	22 • ((800) €	95-722	22 • F	AX (36	60) 636	-1068		F	AGE	:	1	OF			co	C #_	
	0:وبنا	Filor		attle			$\overline{}$		15		/	100	7	7 -	1	7	T	\mathcal{T}_{i}	7	/ \\\\\	/	2000	Τ	\overline{f}	/ /
PROJECT NUMBER						/	/ §	? /		4/		50		8151A	/		<i>I</i>		_ /-	ارق	ઈ /	' ॐ /			/ /5
PROJECT MANAGER						_/ å	ે / છે		~/3	ġ	/8	27		9						چ\ق	• / .	₽/		/	/ /2
COMPANY/ADDRESS						CONTAINERC	270 anics by GCMS	/			/2,		Herbicides 814.	3-8151M	\$/ ∑			Hex Chross	100	Total-P. TKW T	40x 16E	8/		/	
						δ/	ğ_/	8~1	(a g		8-	၂ နှ		/ 9 0	/5	/ 5	ا مِيْ	1 \$	188	Ž,	/ ફ`	Ι,	/ - /	/ /	′ /
PHONE #		FAX#			7	g / [٠ ١ ١	100 E	S O	50	\$ \$ }		\$ 5 E		©370 €		# }	\		(0) (0) (0) (0)	III	′ /	/	-/	/
SAMPLER'S SIGNATURE	lla				NOW BE	Seminolation			Sel E				TO THE SERVICE OF THE PROPERTY	A SHE	NAS &		Cyanide Cyanide Cyanides	H. S. H.	5 6 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8						
SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	/ ≷	/os `	<u> </u>	120	OC	70 V	1 5 E	/లిక్ట	15.5	7 2	/હેં હ	120	73	<u> </u>	<u>/≷</u> `	<u>//~</u>		\bot	_		REMARKS
Noth Lawing Dock	2/14	1:30			1																				Se_belle
West Arking Lot	414	1:15			1																				
0	}																								
	1																						_		
<u> </u>																					_				
																		_							
																					··				
																						 			
REPORT REQUIREM	EMTE	INVO	ICE INFOR	MATION	1	Circle	which	metals	are to	be ana	lvzed:		L									<u> </u>			L
		•				ł						B Ca	Crl	Co (Or Ou	. Fe	Ph N	la M	n Mo	Ni I	K An	Na	Se S	r Ti	Sn V Zn Hg
I. Routine Report: I Blank, Surrogate		Bill To:				ĺ															_				
required							ICATE																50		Sn V Zn Hg
II. Report Dup., MS	, MSD as	TURNAR	OUND REC	UIREM	ENTS	COE	CIAL II	ICTO	LICTIC	NICIO	· O 1 4 1 4	CNTC													
required	lanaut	24 1		_48 hr.		7	N		Λ		l.	٠.		0	~/~	۱	. ^		امن <u>ـ</u>	Lif	1	Sa	کمب	20.	· vu
III. Data Validation F (includes all raw		5 D	ay ndard (10-15	working	daya)	4	/ ca	هد	. ل <u>ح</u>	ث ث	ن بادن د	u	8	ex N	ت د	-			Ī	٠ يون٠		~	6	-	· vu
IV. CLP Deliverable	Report	ľ	vide FAX Res	•	иус)	Ü	me	w	.HL	. C	سعفا	- سرد	ہ صب	\mathcal{T}	ow	<u> </u>	الى	ሊ ያነ	~ ⟨ ⟨ ⟨ ⟨ ⟨ ⟨ ⟩ ⟨ ⟩ ⟨ ⟩ ⟨ ⟩ ⟨ ⟩						
V. EDD	i											•	•												
		Re	quested Rep	ort Date																					10.27
J. Mantell	1 /14	1/01	DI	yel	RECE	VED	BY: /	5/0	/_				REL	INQU	ISHE	DBY:			4	1	62	P.P	ÇEIVI	D BY	2/16/01
a ignature	Date/Time	, 	Signa	ture		Di	atg/Tin	we			_	ature			Da	te/Tim	e			Sidria	3478	41	 Ver 1	Date	Time by
Printed Name	Firm		Printe	d Name			rm			L	Prin	ted Na	ame		Fir	m				Printe	d Nan	ne		Firm	

				lytical Services Inc. nd Preservation Form		Ha	No()	1
Project/Clie	- 111 60	Slat		Work Order K21		1185	<u>.</u>	
	, ,	nd opened on	·	7 0 1 89	73		7	
1.	Were custody seals on or If yes, how many and w		er? (+	nont.			YES NO	1
2.	Were seals intact and sig	nature & date	conect?				(YES) NO	ı
3.	COC#			100 -		—	_	
	Temperature of cooler(s)	upon receipt:	:	$\overline{X}.0$. <u></u>		
	Temperature Blank:	,	q					
4.	Were custody papers pro	perly filled o	ut (ink, sign	ed, etc.)?			YES NO	
5.	Type of packing material	present	Supp	US)	· · · · · · · · · · · · · · · · · · ·	·		
6.	Did all bottles arrive in g	good condition	n (unbroken))?			YES NO	
7.	Were all bottle labels con	mplete (i. e. an	alysis, prese	ervation, etc.)?			VIS NO	
8.	Did all bottle labels and	tags agree wit	h custody pa	apers?			NES NO	
9.	Were the correct types of	bottles used j	for the tests	indicated?			XES NO	
10.	Were all of the preserved	l bottles receiv	ved at the lal	with the appropriate pl	-1 ?		YES NO	
11.	Were VOA vials checked	i for absence of	of air bubble	es, and if present, noted	below?		YES NO	
12.	Did the bottles originate	form CASIV		laboratora (1			XÉS NO	
12.	Did the bottom offenate	HOM CAS/K	or a branch	laboratory?			AES NO	
	discrepancies		or a branch	iaboratory?				
		HOIII CAS/ K	or a branch	laboratory ?			AES NO	
Explain any	discrepancies						TES NO	
Explain any	discrepancies	received out o	of temperatu	re:				
Explain any	discrepancies				Bottle Type	Rec'd out of Temperature	Initials	
Explain any	discrepancies	received out o	of temperatu	re:	0			
Explain any	discrepancies	received out o	of temperatu	re:	0			
Explain any	discrepancies	received out o	of temperatu	re:	0			
Explain any	discrepancies	received out o	of temperatu	re:	0			
Explain any	discrepancies	received out o	of temperatu	re:	0			
Explain any	discrepancies	received out o	of temperatu	re:	0			
Explain any	discrepancies	received out o	of temperatu	re:	0			
Explain any	discrepancies	received out o	of temperatu	re:	0			
Explain any	discrepancies	received out o	of temperatu	re:	0			
Explain any	discrepancies	received out o	of temperatu	re:	0			
Explain any	discrepancies	received out o	of temperatu	re:	0			
Explain any	discrepancies	received out o	of temperatu	re:	0			

00014

CRFREV.DOC1/2/01



December 21, 2000

Service Request No: K2008763

Dave Mendenhall Longview Fibre Company 300 Fibre Way P.O. Box 639 Longview, WA 98632

Re: Longview Fibre (Seattle)

Dear Dave:

Enclosed are the results of the sample(s) submitted to our laboratory on November 08, 2000. For your reference, these analyses have been assigned our service request number K2008763.

The Diesel results are higher than the previous sample. This sample showed the same fingerprint but a much higher response.

All analyses were performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the samples analyzed.

Please call if you have any questions. My extension is 3291.

Respectfully submitted,

Columbia Analytical Services, Inc.

Ed Wallace

Ed Wallace

Project Chemist

EW/gep

Page 1 of

cc: Hank Rakoz, Longview Fibre Company (Longview)

cc: Jim Mantell, Longview Fibre Company (Seattle)

1317 South 13th Avenue • P.O. Box 479 • Kelso, Washington 98626 • Telephone 360/ 577-7222 • Fox 360/636-1068

Acronyms

ASTM American Society for Testing and Materials

A2LA American Association for Laboratory Accreditation

CARB California Air Resources Board

CAS Number Chemical Abstract Service registry Number

CFC Chlorofluorocarbon
CFU Colony-Forming Unit

DEC Department of Environmental Conservation

DEQ Department of Environmental Quality

DHS Department of Health Services

DOE Department of Ecology
DOH Department of Health

EPA U. S. Environmental Protection Agency

ELAP Environmental Laboratory Accreditation Program

GC Gas Chromatography

GC/MS Gas Chromatography/Mass Spectrometry

LUFT Leaking Underground Fuel Tank

M Modified

MCL Maximum Contaminant Level is the highest permissible concentration of a substance

allowed in drinking water as established by the USEPA.

MDL Method Detection Limit
MPN Most Probable Number
MRL Method Reporting Limit

NA Not Applicable
NC Not Calculated

NCASI National Council of the Paper Industry for Air and Stream Improvement

ND Not Detected

NIOSH National Institute for Occupational Safety and Health

PQL Practical Quantitation Limit

RCRA Resource Conservation and Recovery Act

SIM Selected Ion Monitoring

TPH Total Petroleum Hydrocarbons

tr Trace level is the concentration of an analyte that is less than the PQL but greater

than or equal to the MDL.

Inorganic Data Qualifiers

- . The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.

Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- B The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- E The reported value is estimated because of the presence of matrix interference.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
- i The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.
- * The duplicate analysis not within control limits. See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

- The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- i The MRL/MDL has been elevated due to a chromatographic interference.
- X See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the clution pattern of the calibration standard.
- The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H
 The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y
 The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

Inorganic Data Qualifiers

- The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.

Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- B The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- E The reported value is estimated because of the presence of matrix interference.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
- i The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.
- The duplicate analysis not within control limits. See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

- The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A tentatively identified compound, a suspected aidol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- i The MRL/MDL has been elevated due to a chromatographic interference.
- X See case parrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the clution pattern of the calibration standard.
- The chromatographic fingerprint of the sample resembles a petroleum product, but the clution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y

 The chromatographic fingerprint of the sample resembles a petroleum product cluting in approximately the correct carbon range, but the clution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

Data Validation Notes and Discussion

Elevated MRLs

Sample West Parking Lot had to be diluted due to high levels of target analyte. The reporting limits have been elevated accordingly.

Analytical Report

Client:

Longview Fibre Company Longview Fibre (Seattle)

Service Request: K2008763

Project: Sample Matrix:

Water

Date Collected: 11/4/00 Date Received: 11/8/00

Semivolatile Petroleum Products Fuel Identification and Quantitation (FIQ) Hydrocarbon Scan

Sample Name:

08763PHC.LL1 - 1 12/20/00

West Parking Lot

Units: ug/L (ppb)

Lab Code:

Basis: NA

Test Notes:

K2008763-001

Date Result Analysis Dilution Date Prep Notes Analyte Factor Extracted Analyzed Method Method **MRL** Result Gasoline **EPA 3510C** 8015B 100 11/10/00 11/16/00 ND 1 Naphtha Distillate ND 100 11/10/00 11/16/00 **EPA 3510C** 8015B 1 Jet Fuel as JP-4 8015B 100 11/10/00 11/16/00 ND EPA 3510C 1 11/16/00 ND Mineral Spirits 8015B 100 1 11/10/00 EPA 3510C Jet Fuel as Jet A EPA 3510C 8015B 100 1 11/10/00 11/16/00 ND Kerosene EPA 3510C 8015B 100 11/10/00 11/16/00 ND 1 Diesel 1000 10 11/10/00 11/28/00 130000 D,F **EPA 3510C** 8015B Heavy Fuel Oil ND **EPA 3510C** 8015B 250 11/10/00 11/16/00 ì Lube Oil 250 11/10/00 11/16/00 9700 F EPA 3510C 8015B 1

> Semi-quantitative. Results are expected to exhibit a low bias due to a potential loss of the volatile components during the extraction procedure.

Approved By:	W	Date: /2/20/00	
\$22/020197p			

00000

Page No.:

Analytical Report

Client:

Longview Fibre Company

Service Request: K2008763

Project:

Longview Fibre (Seattle)

Date Collected: 11/4/00

Sample Matrix:

Water

Date Received: 11/8/00

Semivolatile Petroleum Products Fuel Identification and Quantitation (FIQ) Hydrocarbon Scan

Sample Name:

North ShippingDock

Units: ug/L (ppb)

Lab Code:

K2008763-002

Basis: NA

Test Notes:

	Prep	Analysis		Dilution	Date	Date		Result
Analyte	Method	Method	MRL	Factor	Extracted	Analyzed	Result	Notes
Gasoline	EPA 3510C	8015B	100	1	11/10/00	11/28/00	560	*H
Naphtha Distillate	EPA 3510C	8015B	100	1 .	11/10/00	11/16/00	ND	•
Jet Fuel as JP-4	EPA 3510C	8015B	100	1	11/10/00	11/16/00	ND	*
Mineral Spirits	EPA 3510C	8015B	100	1	11/10/00	11/16/00	ND	
Jet Fuel as Jet A	EPA 3510C	8015B	100	1	11/10/00	11/16/00	ND	
Kerosene	EPA 3510C	8015B	100	1	11/10/00	11/16/00	ND .	
Diesel	EPA 3510C	8015B	100	1	11/10/00	11/28/00	2700	Y
Heavy Fuel Oil	EPA 3510C	8015B	250	ī	11/10/00	11/16/00	ND	
Lube Oil	EPA 3510C	8015B	250	l	11/10/00	11/16/00	1500	Z

Semi-quantitative. Results are expected to exhibit a low bias due to a potential loss of the volatile components during the extraction procedure.

Approved By:	W	Date:	12/20/00	
IS22/020597p				00007
08763PHC.LL1 - 2 12/20/00				Page No.:

Analytical Report

Client:

Longview Fibre Company

Service Request: K2008763

Project:

Longview Fibre (Scattle)

Date Collected: NA

Sample Matrix:

Water

Date Received: NA

Semivolatile Petroleum Products
Fuel Identification and Quantitation (FIQ) Hydrocarbon Scan

Sample Name:

Method Blank

Units: ug/L (ppb)

Lab Code:

K001110-WB

Basis: NA

Test Notes:

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Gasoline	EPA 3510C	8015B	100	1	11/10/00	11/16/00	ND	•
Naphtha Distillate	EPA 3510C	8015B	100	1	11/10/00	11/16/00	ND	*
Jet Fuel as JP-4	EPA 3510C	8015B	100	1	11/10/00	11/16/00	ND	
Mineral Spirits	EPA 3510C	8015B	100	1	11/10/00	11/16/00	ND	
Jet Fuel as Jet A	EPA 3510C	8015B	100	1	11/10/00	11/16/00	ND	
Kerosene	EPA 3510C	8015B	100	1	11/10/00	11/16/00	ND	
Diesel	EPA 3510C	8015B	100	1	11/10/00	11/16/00	ND	
Heavy Fuel Oil	EPA 3510C	8015B	250	1	11/10/00	11/16/00	ND	
Lube Oil	EPA 3510C	8015B	250	1	11/10/00	11/16/00	ND	

Semi-quantitative. Results are expected to exhibit a low bias due to a potential loss of the volatile components during the extraction procedure.

Approved By:	W	Date: 12/21/00	00008
1572/020597p			

08763PHC.LLI - MB 12/15/00

Page No.:

QA/QC Report

Client: Project: Longview Fibre Company

Longview Fibre (Seattle)

Sample Matrix: Water

Service Request: K2008763

Date Collected: 11/4/00 Date Received: 11/8/00

Date Extracted: 11/10/00

Date Analyzed: 11/16/00

Surrogate Recovery Summary

Fuel Identification and Quantitation (FIQ) Hydrocarbon Scan

Prep Method:

EPA 3510C

Units: PERCENT

Analysis Method: 8015B

Basis: NA

Sample Name	Lab Code	Test Notes	Perc o-Terphenyl	e n t R e c o v 4-Bromofluorobenzene	ery n-Triacontane
West Parking Lot	K2008763-001		107	76	97
North Shipping dock	K2008763-002		81	56	78
Method Blank	K001110-WB		97	77	91

CAS Acceptance Limits:

50-150

D-141

50-150

Approved By:	n/	Date:	12/20/00	00009
I ID WITHOUT .				

08763PHC111 - SUR 12/15/00

LFC002261

Page No.:

Analytica	ıl				Cł	1Al	N	OF	C	US	STC)D	Y						,	•	SŖ	#:	<20	201	ਰ /	163
Services M	ıc.	317 South 13	th Ave. مر. Ke	Iso, WA 9	8626	(360)	577-72	222 • 1	(800) 6	95-72	22 • F	AX (36	0) 636	-1068		F	PAG	Ξ		_OF				C #_		
PROJECT NAME LONG	ں: میک آ	Fibre		Me	7		7		7	_	7			7-	7	7	7_	7	7	7.	7	10	Τ	1	\mathcal{T}	TT
PROJECT NUMBER	-	··· -				7	/9	o /	BIEKO		' <i>I</i> .		/	815140		′ /		′ /	' /	\&\ \&\	8 /	/ ^[]	' /	' /		' d
PROJECT MANAGER			 :			7 &	় /ঠু	-	~ / -			DE S					T Tale			∵ 8 /′ 3 (3	: /	/ و				Z
COMPANY/ADDRESS		······································				7 # F	140	/ ,		Ö	/5	§/ §		E 15 8	3/5	7/		18		Sign	40x 16.	§ /				1000
						1 8 1		/ s	8	1 1 0 E	1 E		100 m	16	18		Ö	/ ¥	88	S. P.	/ ð	/	/ .	/ /	/	/ ⁻⁵
PHONE #		FAX#	···		\neg	g /				\$ S/	12 4 18 T		44		O_{i}		1 0 m		00/	9 B/	0/	' /			/	/
SAMPLER'S SIGNATURE			····			Semivolenic CONTAINERS	Volatile Organics by GCMS	\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		3/8				PAHS TellaD 8151M	GC/MS-SILL		3/3	The Carry		70C (circle) 70/41-10 (circle) 2-1	§ /					
SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	/ ₹	Sen (\$\\\Z\\\Z\\\Z\\\Z\\\\Z\\\\Z\\\\\\\\\\\				;\{\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\			7 8	100			A.		ĕ/ &]		/	/	/ F	REMARKS
WestPaling Lot	11/4	10:00	1		7																					
Horth Shipping Dick	4/4	9145	2		1																					
																									Г	
	i																									
		ļ ——																†	1:					\vdash	†	
			<u> </u>													 		T			t				<u> </u>	
	 				_							_				<u> </u>				1					<u> </u>	
	-				_						-						1		\vdash		1		 			
	 	1	l	 		-					1							 		-	 	 	 		 	
REPORT REQUIREM	ENTS		ICE INFOR		<u>, </u>	Circle	which	metals	are to	be an	alyzed:						-	<u> </u>		·	1	Ь				
I. Routine Report:		P.O. # _ Bill To:				То	tal Meta	als: Al	As :	Sb 8	а Ве	ВС	Cđ	Co (or Cu	, Fe	Pb	Mg N	ln Mo	o Ni	K Ag	Ne Ne	Se S	ir Tl	Sn '	V Zn Hg
Blank, Surrogate]				Disso	lved Mel	tals: Al	аA	Sb E	Ba Be	ВС	a Cd	Co	Cr C	u Fø	Pb	Mg N	ın M	o NI	K A	y Na	Se s	Sr TI	Sn	V Zn Hg
required	MOD					'IND	ICATE	STA	TE HY	DRO	CARB	ON PI	ROCE	DURE	: Al	CA	W	NO	RHTV	VEST	ОТН	ER:_		_(CIF	CLE	ONE)
II. Report Dup., MS required	o, MOD as	TURNAF	OUND REC		ENTS	SPE	CIAL II	NSTR	UCTIO	ONS/C	OMM	ENTS	:						,							
III. Data Validation F		50		48 hr.																						
(includes all raw		Sta	ndard (10-15	working	days)]																				
IV. CLP Delivorable	Report	Pro	vide FAX Re	sults																						
V. EDD		Re	quested Rep	ort Date																						
RELINQUIS	HED BY:		T		REGI	IVED	BY:/	- /		T			REL	INQU	ISHE	D BY:			\neg		γ) RE	CEW	ED BY		

Signature

Printed Name

Printed Name

Firm

Printed Name

Firm

Date/Time

Firm

RCOC #1 12/99



October 20, 2000

Service Request No: K2007510

Jim Mantell Longview Fibre Company 5901 E. Marginal Way Seattle, WA 98124

Re: Seattle Box Plant (Groundwater)

Dear Jim:

Enclosed are the results of the sample(s) submitted to our laboratory on September 26, 2000. For your reference, these analyses have been assigned our service request number K2007510.

All analyses were performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the samples analyzed.

Please call if you have any questions. My extension is 3291.

Respectfully submitted,

Columbia Analytical Services, Inc.

Ed Wallace

Ed Wallace

Project Chemist

EW/gl

Page 1 of __!____

cc: Hank Rakoz @ Longview Fibre
Dave Mendenhall @ Longview Fibre

Analytical Report

Client:

Longview Fibre Company

Project:

Seattle Box Plant (Groundwater)

Date Collected: 9/21/00

Service Request: K2007510

Sample Matrix:

Water

Date Received: 9/26/00

Semivolatile Petroleum Products Fuel Identification and Quantitation (FIQ) Hydrocarbon Scan

Sample Name:

North Loading Dock

Units: ug/L (ppb)

Lab Code:

K2007510-002

Basis: NA

Test Notes:

	Prep	Analysis		Dilution	Date	Date		Result
Analyte	Method	Method	MRL	Factor	Extracted	Analyzed	Result	Notes
Gasoline	EPA 3510C	8015B	100	1	9/27/00	10/11/00	ND	•
Naphtha Distillate	EPA 3510C	8015B	100	1	9/27/00	10/11/00	ND	*
Jet Fuel as JP-4	EPA 3510C	8015B	100	1	9/27/00	10/11/00	ND	*
Mineral Spirits	EPA 3510C	8015B	100	1	9/27/00	10/11/00	ND	
Jet Fuel as Jet A	EPA 3510C	8015B	100	1	9/27/00	10/11/00	ND	
Kerosene	EPA 3510C	8015B	100	1	9/27/00	10/11/00	ND	
Diesel	EPA 3510C	8015B	100	1	9/27/00	10/11/00	ND	
Heavy Fuel Oil	EPA 3510C	8015B	250	1	9/27/00	10/11/00	ND	
Lube Oil	EPA 3510C	8015B	250	1	9/27/00	10/11/00	ND	
PHC as Diesel	EPA 3510C	8015B	250	1	9/27/00	10/11/00	5500	
Non-PHC as Diesel	EPA 3510C	8015B	500	1	9/2.7/00	10/11/00	ND	

PHC as Diesel Fuel:	Semi-quantitative. Results are expected to exhibit a low Extractable Petroleum Hydrocarbon fingerprint not mate		•	
Non-PHC as Diesel:	Non-Petroleum Hydrocarbon components eluting in the	extractable rai	nge of n-C8 - n-C44	ŧ.
Approved By:	a	Date: _	00/19/00	
S22/020597p				

Analytical Report

Client:

Longview Fibre Company

Project:

Seattle Box Plant (Groundwater)

Sample Matrix:

Water

Service Request: K2007510

Date Collected: NA
Date Received: NA

Semivolatile Petroleum Products
Fuel Identification and Quantitation (FIQ) Hydrocarbon Scan

Sample Name:

Method Blank

Units: ug/L (ppb)

Lab Code:

K000927-WB

Basis: NA

Test Notes:

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Gasoline	EPA 3510C	8015B	100	1	9/27/00	10/11/00	ND	•
Naphtha Distillate	EPA 3510C	8015B	100	l	9/27/00	10/11/00	ND	•
Jet Fuel as JP-4	EPA 3510C	8015B	100	1	9/27/00	10/11/00	ND	•
Mineral Spirits	EPA 3510C	8015B	100	I	9/27/00	10/11/00	ND	
Jet Fuel as Jet A	EPA 3510C	8015B	100	1	9/27/00	10/11/00	ND	
Kerosene	EPA 3510C	8015B	100]	9/27/00	10/11/00	ND	
Diesel	EPA 3510C	8015B	100	1	9/27/00	10/11/00	ND	
Heavy Fuel Oil	EPA 3510C	8015B	250	1	9/27/00	10/11/00	ND:	
Lube Oil	EPA 3510C	8015B	250	1	9/27/00	10/11/00	ND	
PHC as Diesel	EPA 3510C	8015B	250	1	9/27/00	10/11/00	ND	
Non-PHC as Diesel	EPA 3510C	8015B	500	l	9/27/00	10/11/00	ND	

PHC as Diesel Fuel:
Non-PHC as Diesel:

Semi-quantitative. Results are expected to exhibit a low bias due to the extraction procedure.

Extractable Petroleum Hydrocarbon fingerprint not matching any of the target analytes.

Non-Petroleum Hydrocarbon components eluting in the extractable range of n-C8 - n-C44.

Approved By:	- Ei	Date:	11/19/00	
1017/00507-				

07510PHC LLI - MB 10/17/00

Page No

QA/QC Report -

Client:

Longview Fibre Company

Service Request: K2007510

Project:

Seattle Box Plant (Groundwater)

Date Collected: 9/21/00

Sample Matrix:

Water

Date Received: 9/26/00 Date Extracted: 9/27/00

Date Analyzed: 10/11/00

Surrogate Recovery Summary

Fuel Identification and Quantitation (FIQ) Hydrocarbon Scan

Prep Method: Analysis Method: 8015B

EPA 3510C

Units: PERCENT

Basis: NA

Sample Name	Lab Code	Test Notes	Perc o-Terphenyl	e n t R e c o v 4-Bromofluorobenzene	ery n-Triacontane
West Parking Lot	K2007510-001		75	60	80
North Loading Dock	K2007510-002		. 79	47	82
Method Blank	K000927-WB		70	54	80

CAS Acceptance Limits:

50-150

D-141

50-150

Approved By:	G-	_ Date:	10/19/00	_

SUR3/020597p 07510PHC LL1 - SUR 10/17/00

Acronyms

ASTM American Society for Testing and Materials

A2LA American Association for Laboratory Accreditation

CARB California Air Resources Board

CAS Number Chemical Abstract Service registry Number

CFC Chlorofluorocarbon
CFU Colony-Forming Unit

DEC Department of Environmental Conservation

DEQ Department of Environmental Quality

DHS Department of Health Services

DOE Department of Ecology
DOH Department of Health

EPA U. S. Environmental Protection Agency

ELAP Environmental Laboratory Accreditation Program

GC Gas Chromatography

GC/MS Gas Chromatography/Mass Spectrometry

LUFT Leaking Underground Fuel Tank

M Modified

MCL Maximum Contaminant Level is the highest permissible concentration of a substance

allowed in drinking water as established by the USEPA.

MDL Method Detection Limit
MPN Most Probable Number
MRL Method Reporting Limit

NA Not Applicable
NC Not Calculated

NCASI National Council of the Paper Industry for Air and Stream Improvement

ND Not Detected

NIOSH National Institute for Occupational Safety and Health

PQL Practical Quantitation Limit

RCRA Resource Conservation and Recovery Act

SIM Selected Ion Monitoring

TPH Total Petroleum Hydrocarbons

tr Trace level is the concentration of an analyte that is less than the PQL but greater

than or equal to the MDL.

Inorganic Data Qualifiers

- The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- i The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.

Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- B The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- E The reported value is estimated because of the presence of matrix interference.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
- i The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.
- * The duplicate analysis not within control limits. See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

- * The result is an outlier. See case narrative
- # The control limit criteria is not applicable. See case narrative.
- A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- i The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y
 The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

Columbia		

Organics Data Review and Narrative Worksheet

Service Request: K2007:	Date: October 17, 2000					
Product Code: FIQ8015	Matrix: Water					
Yes 🛭 No 🗌	Are all samples analyzed within hold times?					
Yes No NA	Are all samples analyzed with GC/MS tune window?					
Yes 🛛 No 🗌	Are all calibrations within primary evaluation criteria (including RRF checks)?					
Yes 🛛 No 🗌	Are Second Source standards within primary evaluation criteria?					
Yes ⊠ No □	Are CCVs within primary evaluation criteria (including RRF Checks)?					
Yes 🛛 No 🗌	Are method blanks for all methods <mrl 5%="" less="" of="" or="" results?<="" sample="" td="" than="" the=""></mrl>					
Yes 🛭 No 🗌	Are all surrogate recoveries within control criteria?					
Yes No NA	Are all internal standard recoveries within control criteria?					
Yes 🛛 No 🗌	Are all spike recoveries in MS/DMS samples within control criteria?					
Yes 🛛 No 🗌	Are all MS/DMS or DUP RPDs within control criteria?					
Yes 🛛 No 🗌	Are all LCS recoveries within control criteria?					
Yes No NA	Are RPDs for LCS/DLCS within control criteria?					
Yes 🛛 No 🗌	Are all confirmation results within advisory limits (explain all C, P, and N Flags)?					
Yes □ No ⊠	Have MRLs been achieved in all samples (note dilutions and matrix interferences)?					
Yes 🛛 No 🗌	All results over the calibration range have been reanalyzed at a dilution?					
Yes 🛛 No 🗌	No other discussion required (discuss X, Y, and Z flags as needed)?					
	For "No" responses see case narrative below.					
	roi No responses see case narrauve nelow.					
Circuit	Alexander Manager					
Signature:						
Date:	11/19/20 Title:					

Page 1 of 2

File Path: R:\PHC\CASENAR\HC_SCAN\07510W.DOC

Columbia Analytical Services, Inc.

Data Validation Notes and Discussion

Elevated MRLs

Sample K2007510-001 had to be diluted because of high levels of target analyte. The reporting limits have been elevated accordingly.

File Path: R:\PHC\CASENAR\HC_SCAN\07510W.DOC

Analytical Report

Client:

Longview Fibre Company

Project:

Seattle Box Plant (Groundwater)

Sample Matrix:

Water

Service Request: K2007510

Date Collected: 9/21/00 Date Received: 9/26/00

Semivolatile Petroleum Products
Fuel Identification and Quantitation (FIQ) Hydrocarbon Scan

Sample Name:

West Parking Lot

Lab Code:

K2007510-001

Basis: NA

Units: ug/L (ppb)

Test Notes:

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Gasoline	EPA 3510C	8015B	100	1	9/27/00	10/11/00	ND	*
Naphtha Distillate	EPA 3510C	8015B	100	1	9/27/00	10/11/00	ND	*
Jet Fuel as JP-4	EPA 3510C	8015B	100	1	9/27/00	10/11/00	ND	•
Mineral Spirits	EPA 3510C	8015B	100	I	9/27/00	10/11/00	ND	
Jet Fuel as Jet A	EPA 3510C	8015B	100	1	9/27/00	10/11/00	ND	
Kerosene	EPA 3510C	8015B	100	1	9/27/00	10/11/00	ND	
Diesel	EPA 3510C	8015B	1000	10	9/27/00	10/12/00	14000	
Heavy Fuel Oil	EPA 3510C	8015B	250	1	9/27/00	10/11/00	ND	
Lube Oil	EPA 3510C	8015B	250	Ī	9/27/00	10/11/00	1300	
PHC as Diesel	EPA 3510C	8015B	250	1	9/27/00	10/11/00	ND	
Non-PHC as Diesel	EPA 3510C	8015B	500	1	9/27/00	10/11/00	ND	

*	Semi-quantitative. Results are expected to exhibit a low bias due to the extraction procedure.				
PHC as Diesel Fuel:	Extractable Petroleum Hydrocarbon fingerprint not matching any of the target analytes.				
Non-PHC as Diesel:	Non-Petroleum Hydrocarbon components eluting in the extractable range of n-C8 - n-C44.				
Approved By:	Z- Date: 10/19/00				
1S22/020597p					
07510PHCLL1 - 1 10/17/00					

(: () () () () () Page No.

Analytical	CHAI	OF CUSTODY		SR#: Kra	
An Employee-Corned Company 1317 South 13t	h Ave. • Kelso, WA 98626 • (360) 57	77-7222 • (800) 695-7222 • FAX (360) 636	. ₁₀₆₈ PAGE		OC #
	(ant (buildate)			10C 9020 1 504 1 90 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	////
PROJECT MANAGER Tim Mant	21 8				/ / / -
COMPANY/ADDRESS 5901 E. Mars.	21) NO WOUNT NO OF THE PROPERTY OF THE PROPER	Volume Oranics by GCMS Mydrocarbons ('see below) Orac Desert ('see below) Orac Desert ('see below) Orac Green (FO) Orac Green (FO) A13.1 Casser TRPH Arcos Corporation Possible See Heart See See Corporation Orac Green (FO) A13.1 Casser TRPH Arcos Corporation Corpora	PAHS 810 BISIN BIS	28.54 108.64 108.64 108.64 108.64 108.64 108.66	/// 3
Seattle WA			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	88 4 /	/ / / *
PHONE # 206 - 762 - 7170 FAX # 206	LAB I.D. MATRIX	2	PAHS B310 CVanice CVAN		' / /
SAMPLEH'S SIGNATURE	MBE;	2	PAHS See 18: See 18: S		/ / .
SAMPLE I.D. DATE TIME	LAB I.D. MATRIX / ≥ / 5 /	Z\$\\$\$\Q\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	\ \(\alpha\) \(\alpha\		REMARKS
West Parking Lat 921 10:30					<u> </u>
North Lording dock /2/ 10130					
, ,					
1.]
				- 	
					<u> </u>
					<u> </u>
I REPORT REQUIREMENTS		hich metals are to be enalyzed:			
	Total	Metals: Al As Sb Ba Be B Ca Cd	Co Cr Cu Fe Pb Mg Mr	MoNIK Ag Na Se S	Sr Ti Sn V Zn Hg
Blank, Surrogate, as		d Metals: Al As Sb Ba Be B Ca Cd	Co Cr Cu Fe Pb Mg Mi	n MoNiK Ag Na Se	Sr TI Sn V Zn Hg
required	*INDIC	ATE STATE HYDROCARBON PROCE	DURE: AK CA WI NOF	RHTWEST OTHER:	(CIRCLE ONE)
required	I	AL INSTRUCTIONS/COMMENTS:			
241III. Data Validation Report5 D.	Nu	UTPH			
(includes all raw data)	ndard (10-15 working days)	Run Fuel Sc	am FIO		
N OLD Delta-selle Based	vide FAX Results		Em	ه	
V. EDD		NTPH Run Fuel Sc	9/20	100	
	quested Report Date		· · · · · · · · · · · · · · · · · · ·		
RELINQUISHED BY	/ , HECEIVED #	ľ	INQUISHED BY:	PECEN	ED BY:
1. W. N. 14 worker 1/26/00			INCOISMED BY:	III TOLIN	LO DI.
-Signature, Date/Time	Lan 1 1 9/	Y: REI 24/w / 400 e/Time Signature	Date/Time	Signature	Date/Time



March 7, 2000

Service Request No: K2001203

Jim Mantell Longview Fibre Company 5901 E. Marginal Way Seattle, WA 98124

Re: Quarterly Groundwater

Dear Jim:

Enclosed are the results of the sample(s) submitted to our laboratory on February 22, 2000. For your reference, these analyses have been assigned our service request number K2001203.

All analyses were performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the samples analyzed.

Please call if you have any questions. My extension is 3291.

Respectfully submitted,

Columbia Analytical Services, Inc.

Wallace

Ed Wallace Project Chemist

EW/II

Page 1 of

cc: Hank Rakoz, Longview Fibre (Longview)
Dave Mendenhall, Longview Fibre (Longview)

Acronyms

ASTM American Society for Testing and Materials

A2LA American Association for Laboratory Accreditation

CARB California Air Resources Board

CAS Number Chemical Abstract Service registry Number

CFC Chlorofluorocarbon
CFU Colony-Forming Unit

DEC Department of Environmental Conservation

DEQ Department of Environmental Quality

DHS Department of Health Services

DOE Department of Ecology
DOH Department of Health

EPA U. S. Environmental Protection Agency

ELAP Environmental Laboratory Accreditation Program

GC Gas Chromatography

GC/MS Gas Chromatography/Mass Spectrometry

J Estimated concentration. The value is less than the method reporting limit, but

greater than the method detection limit.

LUFT Leaking Underground Fuel Tank

M Modified

MCL Maximum Contaminant Level is the highest permissible concentration of a substance

allowed in drinking water as established by the USEPA.

MDL Method Detection Limit
MPN Most Probable Number
MRL Method Reporting Limit

NA Not Applicable
NAN Not Analyzed
NC Not Calculated

NCASI National Council of the Paper Industry for Air and Stream Improvement

ND Not Detected at or above the MRL

NIOSH National Institute for Occupational Safety and Health

POL Practical Quantitation Limit

RCRA Resource Conservation and Recovery Act

SIM Selected Ion Monitoring

TPH Total Petroleum Hydrocarbons

tr Trace level is the concentration of an analyte that is less than the PQL but greater

than or equal to the MDL.

Client:

Longview Fibre Co.

Service Request No.:

K2001203

Project:

Seattle Box Plant Wells .

Date Received:

2/22/00

Sample Matrix:

Water

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for sample(s) designated for Tier I {tierlevel} data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses.

All EPA recommended holding times have been met for analyses in this sample delivery group.

The following difficulties were experienced during analysis of this batch:

The surrogate recoveries for NWTPH-Dx in the West Parking Lot sample were outside normal CAS control limits because of matrix interference. The chromatogram showed components that prevented accurate quantitation of the surrogate. No further corrective action was taken.

The North Loading Dock sample contained petroleum hydrocarbon material which could not be conclusively identified as to the type of PHC. It was quantitated as though it were diesel.

Approved by Euw Date 3/7/00

Analytical Report

Client:

Longview Fibre Company Quarterly Groundwater

Project: Sample Matrix:

Water

Service Request: K2001203

Date Collected: 2/17/00

Date Received: 2/22/00

Semivolatile Petroleum Products Northwest TPH-Dx

Sample Name:

#1 North Loading Dock

Units: ug/L (ppb)

Lab Code:

K2001203-001

Basis: NA

Test Notes:

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Mineral Spirits	EPA 3510C	NWTPH-Dx	250	1	2/23/00	2/24/00	ND	
Jet Fuel as Jet A	EPA 3510C	NWTPH-Dx	250	1	2/23/00	2/24/00	ND	
Kerosene	EPA 3510C	NWTPH-Dx	250	3	2/23/00	2/24/00	ND	
Diesel	EPA 3510C	NWTPH-Dx	250	1	2/23/00	2/24/00	ND	
Heavy Fuel Oil	EPA 3510C	NWTPH-Dx	500	1	2/23/00	2/24/00	ND	
Lube Oil	EPA 3510C	NWTPH-Dx	500	1	2/23/00	2/24/00	ND	
PHC as Diesel	EPA 3510C	NWTPH-Dx	500	1	2/23/00	2/24/00	4000	
Non-PHC as Diesel	EPA 3510C	NWTPH-Dx	500	1	2/23/00	2/24/00	ND	

PHC as Diesel Fuel:

Extractable Petroleum Hydrocarbon fingerprint not matching any of the target analytes.

Non-PHC as Diesel:

Non-Petroleum Hydrocarbon components eluting in the extractable range of n-C8 - n-C44.

Approved By: MMenthe

Date: 3/6/10

IS22/020597p

01203PHC.ES1 - 1 3/3/00

Analytical Report

Client:

Longview Fibre Company

Project:

Quarterly Groundwater

Service Request: K2001203

Date Collected: 2/17/00

Sample Matrix:

Water

Date Received: 2/22/00

Semivolatile Petroleum Products Northwest TPH-Dx

Sample Name:

#2 West Parking Lot

Lab Code:

K2001203-002

Units: ug/L (ppb)

Basis: NA

Test Notes:

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Mineral Spirits	EPA 3510C	NWTPH-Dx	250	1	2/23/00	2/24/00	ND	
Jet Fuel as Jet A	EPA 3510C	NWTPH-Dx	250	1	2/23/00	2/24/00	ND	
Kerosene	EPA 3510C	NWTPH-Dx	250	1	2/23/00	2/24/00	ND	
Diesel	EPA 3510C	NWTPH-Dx	2500	10	2/23/00	2/24/00	160000	С
Heavy Fuel Oil	EPA 3510C	NWTPH-Dx	500	1	2/23/00	2/24/00	ND	
Lube Oil	EPA 3510C	NWTPH-Dx	500	1	2/23/00	2/24/00	10000	
PHC as Diesel	EPA 3510C	NWTPH-Dx	500	1	2/23/00	2/24/00	ND	
Non-PHC as Diesel	EPA 3510C	NWTPH-Dx	500	1	2/23/00	2/24/00	ND	

С

The MRL is elevated because the sample required diluting.

PHC as Diesel Fuel: Non-PHC as Diesel: Extractable Petroleum Hydrocarbon fingerprint not matching any of the target analytes.

Non-Petroleum Hydrocarbon components eluting in the extractable range of n-C8 - n-C44.

Approved By: MMM

Data: 3/1/10

1 S22/020 597p

01203PHC ES1 - 2 3/3/00

Page No.:

Analytical Report

Client:

Longview Fibre Company

Project:

Quarterly Groundwater

Date Collected: NA

Service Request: K2001203

Sample Matrix:

Water

Date Received: NA

Semivolatile Petroleum Products Northwest TPH-Dx

Sample Name:

Method Blank K000223-WB Units: ug/L (ppb)

Lab Code:

Basis: NA

Test Notes:

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Mineral Spirits	EPA 3510C	NWTPH-Dx	250	1	2/23/00	2/24/00	ND	
Jet Fuel as Jet A	EPA 3510C	NWTPH-Dx	250	1	2/23/00	2/24/00	ND	
Kerosene	EPA 3510C	NWTPH-Dx	250	1	2/23/00	2/24/00	ND	
Diesel	EPA 3510C	NWTPH-Dx	250	1	2/23/00	2/24/00	ND	
Heavy Fuel Oil	EPA 3510C	NWTPH-Dx	500	1	2/23/00	2/24/00	ND	
Lube Oil	EPA 3510C	NWTPH-Dx	500	1	2/23/00	2/24/00	ND	
PHC as Diesel	EPA 3510C	NWTPH-Dx	500	1	2/23/00	2/24/00	. ND	
Non-PHC as Diesel	EPA 3510C	NWTPH-Dx	500	1	2/23/00	2/24/00	ND	

PHC as Diesel Fuel:

Extractable Petroleum Hydrocarbon fingerprint not matching any of the target analytes.

Non-PHC as Diesel:

Non-Petroleum Hydrocarbon components eluting in the extractable range of n-C8 - n-C44.

Approved By: MM authe

Date: 3/6/10

1522/020597p

01203PHC.ES1 - MBlank 3/3/00

Page No.:

QA/QC Report

Client:

Longview Fibre Company

Project:

Quarterly Groundwater

Sample Matrix:

Water

Service Request: K2001203 Date Collected: 2/17/00

Date Received: 2/22/00 Date Extracted: 2/23/00

Date Analyzed: 2/24/00

Surrogate Recovery Summary

Northwest TPH-Dx

Prep Method:

Analysis Method: NWTPH-Dx

EPA 3510C

Units: PERCENT

Basis: NA

Percent Recovery Test n-Triacontane Lab Code Notes o-Terphenyl Sample Name 112 118 #1 North Loading Dock K2001203-001 182 A 0 A K2001203-002 #2 West Parking Lot 107 99 Method Blank K000223-WB

CAS Acceptance Limits:

50-150

50-150

Α

Outside acceptance limits; see case narrative.

Approved By: M.Maht

Date: 3 6 10

SUR2/061197p 01203PHC.ES1 - SUR 3/3/00



February 23, 1999

Service Request No: K9900744

Jim Mantell Longview Fibre Company 5901 E. Marginal Way Seattle, WA 98124

Re: Seattle Groundwater

Dear Jim:

Enclosed are the results of the sample(s) submitted to our laboratory on February 5, 1999. For your reference, these analyses have been assigned our service request number K9900744.

All analyses were performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the samples analyzed.

Please call if you have any questions. My extension is 268.

Respectfully submitted,

Columbia Analytical Services, Inc.

Eileen M. Arnold Project Chemist

EMA/br

Page 1 of

cc: Dave Mendenhall, LVF Hank Rakoz, LVF

Acronyms

ASTM American Society for Testing and Materials

A2LA American Association for Laboratory Accreditation

CARB California Air Resources Board

CAS Number Chemical Abstract Service registry Number

CFC Chlorofluorocarbon
CFU Colony-Forming Unit

DEC Department of Environmental Conservation

DEQ Department of Environmental Quality

DHS Department of Health Services

DOE Department of Ecology
DOH Department of Health

EPA U. S. Environmental Protection Agency

ELAP Environmental Laboratory Accreditation Program

GC Gas Chromatography

GC/MS Gas Chromatography/Mass Spectrometry

J Estimated concentration. The value is less than the method reporting limit, but

greater than the method detection limit.

LUFT Leaking Underground Fuel Tank

M Modified

MCL Maximum Contaminant Level is the highest permissible concentration of a substance

allowed in drinking water as established by the USEPA.

MDL Method Detection Limit
MPN Most Probable Number
MRL Method Reporting Limit

NA Not Applicable
NAN Not Analyzed
NC Not Calculated

NCASI National Council of the Paper Industry for Air and Stream Improvement

ND Not Detected at or above the MRL

NIOSH National Institute for Occupational Safety and Health

PQL Practical Quantitation Limit

RCRA Resource Conservation and Recovery Act

SIM Selected Ion Monitoring

TPH Total Petroleum Hydrocarbons

tr Trace level is the concentration of an analyte that is less than the PQL but greater

than or equal to the MDL.

Analytical Report

Client:

Longview Fibre Company

Project:

Seattle Groundwater

Sample Matrix:

Water

Service Request: K9900744

Date Collected: 2/4/99

Date Received: 2/5/99 Date Extracted: NA

Date Analyzed: 2/11/99

BTEX
EPA Methods 5030A/8020A
Units: µg/L (ppb)

Analyte: Toluene Ethylbenzene Total Xylenes Benzene Method Reporting Limit. 0.5 1 . 1 1 Sample Name Lab Code AF122977 K9900744-001 ND ND NDND ND AF123017 K9900744-002 ND ND ND Method Blank K991211-MB ND ND ND ND

Approved By:

4A/102194 00744VOA.KP1 - BTEXs 2/17/99 Date: 2-19-59

00003

Page No:

QA/QC Report

Client:

Longview Fibre Company

Project:

Sample Matrix: Water

Seattle Groundwater

Service Request: K9900744

Date Collected: 2/4/99

Date Received: 2/5/99 Date Extracted: NA

Date Analyzed: 2/11/99

Surrogate Recovery Summary

BTEX

EPA Methods 5030A/8020A

Sample Name	Lab Code	Percent Recovery 1,4-Difluorobenzene
AF122977	K9900744-001	96 .
AF123017	K9900744-002	. 97
Method Blank	K991211-MB	97

CAS Acceptance Limits: 70-130

Approved By:

SUR1/111594 00744VOA KPI - BTEXSSUR 2/17/99



CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

Services	inc. 131	7 South 13t	h Ave. • Kelso, W	A 98626 • (360) 577-7	222 •	(800) 6	95-722	22 • FA	X (36	60) 636	-1068	E	DATE_					PAGE	<u> </u>		OF		
PROJECT NAME SEATT	LB C	מעטעם	WAR TER				ANALUS REGUESTED PENSING STANDS STAN																	
1	PROJECT MANAGER JIM MANTELL						7	7		7	7.	3/8	Ş /	7	7	8/	7	/-		ဗ /	9/	77		
COMPANY/ADDRESS 5					CONTAINERS		/5		200		do de la constante de la const	15/2/2	"/,			E E		14.	. \ <u>`</u>	- / ,	1880 1880	\ \zeta		
LONGUERE FIBRE CO.					MATA		ganic	/		/	1800 1800	30.5	6			Solke Solke	/	P. P.	1. p.	88		0000		
FAX 206-767-2442 PHONE 206-762-7170					100	1	10 % 10 %	38	28 8 4 8 8		E 4	30/		8 /	'.₽/	18 5 /	/ /			鹭	/ /	// 6 .		
SAMPLERS SIGNATURE Lange R. Montell					NUMBER OF		Volatile Organics			etrole		13 E	TPHHCID Carbon S	TO DO OR	Melais (form Vod.) Peril		و	3 6 kg		[8]				
SAMPLE	7		LAB	SAMPLE	- MB	183				otal S			THE STATE OF		te dals	Na right	18.	N Z		3/		REMARKS		
	DATE /	TIME	I.D.	MATRIX	12	100	/3.6	128	14.8/	~	<u>/~ @</u>	<u> </u>	<u> </u>	7-5	<u> </u>	/6	/₫₹	/≥ <u>©</u>	1-5		\leftarrow			
	2/2,	12:15			┼~-	-			-								 	-	├	-	-	 		
AF 123017	24	12:30		ļ	┼~	-								-			-	-	 	}-	-	 		
 				 	-	┼			\vdash	\dashv			_	<u> </u>		-		-	 	 	-	 		
					┼─-	\vdash				_				_				-	├─		 			
					†	\vdash			-				-			 	 		 	\vdash	 			
				 	1	-	-	-	\vdash									 	 	†				
					 													\vdash			 			
					\top													T	† <u> </u>					
															ļ —									
A RELINQUISHED BY:	7/	· .	ECEIVED BY:	1	-	ROUND REQUIREMENTS REPORT REQUIREMEN							ENTS		INVO	ICE IN	FORMA	TION:	*	SAMPLE RECEIPT:				
Signature Mushel	L.	Signalium	beace in			48 hr5 day I. Routine Report ard (10-15 working days) II. Report (includes DUP.M							MS.	P.O.#						Shipping VIA:				
Printed Name	<u>رئ</u> [Printed Na	wood me		Provide \	ide Verbal Preliminary charged as samples) Bill To														ng #:				
Firm	ZZ Cu	₽₽S	-relso_		Results III. Data Validation Report (includes All Raw Data)							ita)	· ·							Condition:				
35199 1000 - 1						ide FAX preliminary Results IV, CLP Deliverable Report Report Date															Lab No. K9900744			
			CIAL II	NSTRU	JCTIO	NS/C	DMMEN	NTS:										1						
Signature Signature																								
Printed Name Printed Name																								
Firm		Firm																						
Date/Time		Date/Time	•	İ																				
L																								

DISTRIBUTION: WHITE - return to originator; YELLOW - lab; PINK - retained by originator

ACKNOWLEDGMENT OF RECEIPT OF SAMPLES

TO:

Jim Mantell Longview Fibre Company 5901 E. Marginal Way S. Seattle, WA 98124

FROM:

Ed Wallace, Project Chemist Columbia Analytical Services, Inc.

This is to inform you that the samples received for testing have been assigned CAS Service Request number K9902936. Please verify information and notify me of any corrections.

A copy of our work order is attached. If you have any questions regarding the status of this work, please call me at (360) 577-7222.

Thank you for your business.

Number of pages - 2 - (including cover sheet).

Columbia Analytical Services, Inc. 1317 South 13th Avenue P.O. Box 479 Kelso, WA 98626 (360) 577-7222 (360) 636-1068 - FAX

^{*} During the next few months, you may notice format changes in some of the documents you receive from CAS.

However, these documents should contain the same information you are accustomed to receiving.

Columbia Analytical Services -- Keise INTERNAL LOGIN SUMMARY REPORT (1101) 14-MAY-90 09:20

		14-MA	Y-99 09:20	
Service Req. N Client No. Client Name	 於9902936。2010年第三十四日 (1) 中華 125855 Long VI EA PT DING (Periparity 4年) / 科···································	Project Name		Bottles: 1 · Other 2 · Single VOA ·
Bill To:	Longview Fibre Company Western Container Division Attn: Accounts Payable P.O. Box 9069 Yakima, WA 98909	Report Tq:	Lorent and fibre Company Common Jim Mantett Jim Mantett 5901 E. Marginal Way S. Seattle, WA 98124	
P.O. No. Logged in By 1SR Num COC Received	LYD3B893 L FADAIR N	Site ID Project Chemist	Editation 作用的技术中的名义。更	met.
Samples Submit	ted 11-MAY-99			Storage: MISTY HERK HZ
CAS Samp No.	Client Sample No.	Matrix Collected DueDate	DX-NHTPH TCP-4 PB/GFAA -DIGEST	
K9902936-001 K9902936-003 K9902936-003	Shipping Dock Well West Perking Lot 4/28/99 Water	H20 08-MAY-99 25-MAY- H20 08-MAY-99 25-MAY- H20 08-MAY-99 25-MAY-	99	沙科斯中的基础中国经济中国和安全的基础中的企业的安徽和高级
Comments:				
K9902936 K9902936 K9902936	LIMITED SAMPLE VOLUME!!! CC: Tim Lutzo-Seattle ICP-4: □ Cr,Du,fe,Zn.			
125855	ce: Hank Rakoz			
				;
	•			
				<u> </u>
Samples Found	To Be Hazardous: NONE ALL *SONE_			Reviewed By:

Page 1 of 1

LFC002286

	Colu	mbia	analy	tual			
	<u>;</u>						
1.	AF	1229	5 WB	ST PARK	NC LOT		
:	:						31 2
	Jugs	les Tohe	5/8	/99			·
	No	him of	Curlack	1 lat	Coroline	- anal	,
:: !:	Reg	him of west for	m pes	L. m	To coo	len .	:
	:	·					
						· W7	
	Sung	les sen	1000	5	10/89		
			Manager and participal of purific and	, .			
		<u></u>					
	.,			•		<u> </u>	
					· · · · · · · · · · · · · · · · · · ·		
		····· ·· · · · · · · · · · · · · · · ·		<u>.</u>			
,							.,
					· · · · · · · · · · · · · · · · · ·		
· · · · · · · · · · · · · · · · · · ·							
			an flage According to September 200 and a september 2	· ··· · · · · · · · · · · · · · · · ·	gradien germanger og godd at de skenhe er skrage årdet	_	
			····				



CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

Service	5 '' [.] 13	17 South 13t	h Ave. • Kelso, W	4 98626 • (360	577-7	222 •	(800) €	95-722	22 • F	AX (36	0) 636	-1068		DATE_					PAGE			OF		
PROJECT NAME SEPTTLE GROWN WATER													ANA	ALY:	SIS	REQ	UES	TE	>					
PROJECT MANAGER							7	\neg		§ 7	7.	, <u>5</u>	§ 7	7	7	\$/	7	$\overline{}$		§ 7	7	1 1		
COMPANY/ADDRESS					CONTAINERS	ļ			100		Ž Q	14 25	3 / .		1	Į.		14	3		<i>\delta \ose \ose \ose \ose \ose \ose \ose \ose</i>	//		
LONGWING FIBRE CO.					Ĭ¥.		anics		matic 2200		1800 1800		/ 5		eni.			\(\delta_{\phi}\)	á.			/ /		
					8	1		88	58	s /	E 2	lig XD			102	80	/ /	ું જે	rotaj.		/ /	/ / '		
FAX 206-767-2442 PHONE 206-762-7170 SAMPLERS SIGNATURE 206-762-7170					μ̈́		388				20 1			20/	2/2	ē /	6				-/	/		
SAMPLERS SIGNATURE		1		,	NUMBER OF	No.		8 8	5 5						580		8	د/ک		<u>s</u> /				
	SAMPLE LAB SAMPLE I.D. DATE TIME I.D. MATRIX			Ž	r S	Volatile Ors 18270 Panics	Halogenales 601,69		[264] [264]	\$ 3	To O	1 × 3	A CLOCK OF THE PROPERTY OF THE	Metals (form) VOAC Semi. Peri	3	No. Sana			2) 9620 III HIII BE		REMARKS			
<u> </u>	74	12 (15																						
AF 123017	129 17 mg	12:30																						
											-													
																	:6	i						
																	¥.							
												-												
			`																			·		
RELINQUISHED BY:	71	R	ECEIVED BY:	TURN	IAROUN	OUND REQUIREMENTS REPORT REQUIREMENTS								INVOICE INFORMATION:							SAMPLE RECEIPT:			
Signature Manufact	<u> </u>	Signature				48 hr 5 day I. Routine Report II. Report (includes DUP.MS						MS.	P.O.#							Shipping VIA:				
Printed Name	<u> </u>	Printed No		1		ndard (10-15 working days) MSD, as required, may be charged as samples)						av be	Bill To							Shipping #:				
Firm		,			Results				[—	III. Date	Validati ludes All	on Repo	ort ata)								Condition:			
<u></u>		Firm	·	- 1		FAX preliminary Results IV. CLP Deliverable Report																		
Date/Time Date/Time Requeste			ted Repo	ri Dale _								<u> </u>						Lab N	o:					
RELINQUISHED BY: RECEIVED BY: SPEC			CIAL I	NSTRU	JCTIO	NS/C	OMME	NTS:																
Signature Signature																								
Printed Name Printed Name																								
Firm						•																		
Date/Time		Date/Time		—— 																				
L																								

DISTRIBUTION: WHITE - return to originator; YELLOW - lab: PINK - retained by originator

_	
	Columbia Analytical 1-800-675-7222
	1-800-675-7222
	1-360-577-7222
	l h
	FAX1-360-636-1068
	Eles Mandel
	& MANGAN
	Cifety O. Christer
	El Wollace BX
	El Wollace EX



May 25, 1999

Service Request No: K9902936

Jim Mantell Longview Fibre Company 5901 E. Marginal Way Seattle, WA 98124

Dear Jim:

Enclosed are the results of the sample(s) submitted to our laboratory on May 11, 1999. For your reference, these analyses have been assigned our service request number K9902936.

There were hits for diesel and lube oil in these samples. Previous analyses on these wells were for BTEX which are gasoline components and not found in diesel.

All analyses were performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the samples analyzed.

Please call if you have any questions. My extension is 291.

Respectfully submitted,

Ed Wallace

Columbia Analytical Services, Inc.

Ed Wallace

Project Chemist

EW/klg

Page 1 of

cc: Hank Rakoz, [Longview]
Dave Mendenhall, [Longview]

Acronyms

ASTM American Society for Testing and Materials

A2LA American Association for Laboratory Accreditation

CARB California Air Resources Board

CAS Number Chemical Abstract Service registry Number

CFC Chlorofluorocarbon
CFU Colony-Forming Unit

DEC Department of Environmental Conservation

DEQ Department of Environmental Quality

DHS Department of Health Services

DOE Department of Ecology
DOH Department of Health

EPA U. S. Environmental Protection Agency

ELAP Environmental Laboratory Accreditation Program

GC Gas Chromatography

GC/MS Gas Chromatography/Mass Spectrometry

J Estimated concentration. The value is less than the method reporting limit, but

greater than the method detection limit.

LUFT Leaking Underground Fuel Tank

M Modified

MCL Maximum Contaminant Level is the highest permissible concentration of a substance

allowed in drinking water as established by the USEPA.

MDL Method Detection Limit
MPN Most Probable Number
MRL Method Reporting Limit

NA Not Applicable
NAN Not Analyzed
NC Not Calculated

NCASI National Council of the Paper Industry for Air and Stream Improvement

ND Not Detected at or above the MRL

NIOSH National Institute for Occupational Safety and Health

POL Practical Quantitation Limit

RCRA Resource Conservation and Recovery Act

SIM Selected Ion Monitoring

TPH Total Petroleum Hydrocarbons

tr Trace level is the concentration of an analyte that is less than the PQL but greater

than or equal to the MDL.

Analytical Report

Client:

Longview Fibre Company

Project:

NA

Sample Matrix: Water

Service Request: K9902936.

Date Collected: 5/8/99

Date Received: 5/11/99 Date Extracted: 5/18/99

Total Metals Units: µg/L (ppb)

		Sample Name: Lab Code: Date Analyzed:	4/28/99 Water K9902936-003 5/18, 19/99	Method Blank K9902936-MB 5/18, 19/99
	EPA			
Analyte	Method	MRL		
Chromium	6010B	5	ND	ND
Copper	6010B	. 10	ND	ND
Iron	7421	2	28	ND
Lead	6010B	50	ND	ND
Zinc	6010B	10	2190	ND

Approved By:

3S30EPA/102094 02936ICP.BR.I - Sample 5/20/99

Date: 5/21(99

Analytical Report

Client:

Longview Fibre Company

Service Request: K9902936

Project:

NA

Date Collected: 5/8/99 Date Received: 5/11/99

Sample Matrix:

Water

Semivolatile Petroleum Products Northwest TPH-Dx

Sample Name:

Shipping Dock Well

Lab Code:

K9902936-001

Units: ug/L (ppb) Basis: NA

Test Notes:

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Mineral Spirits	EPA 3510C	NWTPH-Dx	250	1	5/15/99	5/18/99	ND	
Jet Fuel as Jet A	EPA 3510C	NWTPH-Dx	250	1	5/15/99	5/18/99	ND	
Kerosene	EPA 3510C	NWTPH-Dx	250	1	5/15/99	5/18/99	ND	
Diesel	EPA 3510C	NWTPH-Dx	250	1	5/15/99	5/18/99	1360	
Heavy Fuel Oil	EPA 3510C	NWTPH-Dx	500	1	5/15/99	5/18/99	ND	
Lube Oil	EPA 3510C	NWTPH-Dx	500	1	5/15/99	5/18/99	2530	
PHC as Diesel	EPA 3510C	NWTPH-Dx	500	1	5/15/99	5/18/99	ND	
Non-PHC as Diesel	EPA 3510C	NWTPH-Dx	500	ĭ	5/15/99	5/18/99	ND	

PHC as Diesel Fuel: Non-PHC as Diesel:

Extractable Petroleum Hydrocarbon fingerprint not matching any of the target analytes. Non-Petroleum Hydrocarbon components eluting in the extractable range of n-C8 - n-C44.

Approved By: MWanthe

Date: 5/24/49

IS22/020597p

02936PHC.LL1 - 1 5/19/99

Analytical Report

Client:

Longview Fibre Company

Service Request: K9902936

Project: Sample Matrix:

Water

Date Collected: 5/8/99 Date Received: 5/11/99

Semivolatile Petroleum Products Northwest TPH-Dx

Sample Name:

West Parking Lot K9902936-002

Units: ug/L (ppb)

Lab Code:

Basis: NA

Test Notes:

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Mineral Spirits	EPA 3510C	NWTPH-Dx	250	ì	5/15/99	5/18/99	ND	
Jet Fuel as Jet A	EPA 3510C	NWTPH-Dx	250	1	5/15/99	5/18/99	ND	
Kerosene	EPA 3510C	NWTPH-Dx	250	1	5/15/99	5/18/99	ND	
Diesel	EPA 3510C	NWTPH-Dx	250	1	5/15/99	5/18/99	5940	
Heavy Fuel Oil	EPA 3510C	NWTPH-Dx	500	1	5/15/99	5/18/99	ND	
Lube Oil	EPA 3510C	NWTPH-Dx	500	1	5/15/99	5/18/99	975	
PHC as Diesel	EPA 3510C	NWTPH-Dx	500	1	5/15/99	5/18/99	ND	
Non-PHC as Diesel	EPA 3510C	NWTPH-Dx	500	1	5/15/99	5/18/99	ND	

PHC as Diesel Fuel: Non-PHC as Diesel:

Extractable Petroleum Hydrocarbon fingerprint not matching any of the target analytes. Non-Petroleum Hydrocarbon components eluting in the extractable range of n-C8 - n-C44.

Approved By: MM anthe

Date: 5/24/49

1S22/020597p

02936PHCLLI - 2 5/19/99

Analytical Report

Client:

Longview Fibre Company

Service Request: K9902936

Project: Sample Matrix: NA Water Date Collected: NA
Date Received: NA

Semivolatile Petroleum Products Northwest TPH-Dx

Sample Name:

Method Blank

Units: ug/L (ppb)

Lab Code:

K990515-WB

Basis: NA

Test Notes:

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Mineral Spirits	EPA 3510C	NWTPH-Dx	250	. 1	5/15/99	5/18/99	ND	
Jet Fuel as Jet A	EPA 3510C	NWTPH-Dx	250	1	5/15/99	5/18/99	ND	
Kerosene	EPA 3510C	NWTPH-Dx	250	1	5/15/99	5/18/99	ND	
Diesel	EPA 3510C	NWTPH-Dx	250	1	5/15/99	5/18/99	ND	
Heavy Fuel Oil	EPA 3510C	NWTPH-Dx	500	1	5/15/99	5/18/99	ND	
Lube Oil	EPA 3510C	NWTPH-Dx	500	1	5/15/99	5/18/99	ND	
PHC as Diesel	EPA 3510C	NWTPH-Dx	500	1	5/15/99	5/18/99	ND	
Non-PHC as Diesel	EPA 3510C	NWTPH-Dx	500	1	5/15/99	5/18/99	ND	

PHC as Diesel Fuel:

Extractable Petroleum Hydrocarbon fingerprint not matching any of the target analytes.

Non-PHC as Diesel:

Non-Petroleum Hydrocarbon components eluting in the extractable range of n-C8 - n-C44.

Approved By: MMunthe

Date: 5/24/99

1S22/020597p

02936PHC.LL1 - MBlank 5/19/99

Page No.:

QA/QC Report

Client:

Longview Fibre Company

Service Request: K9902936

Project:

Sample Matrix:

NA Water Date Collected: 5/8/99

Date Received: 5/11/99 Date Extracted: 5/15/99

Date Analyzed: 5/18/99

Surrogate Recovery Summary Northwest TPH-Dx

Prep Method:

EPA 3510C

Units: PERCENT

Analysis Method: NWTPH-Dx

Basis: NA

		Test	Percent	Recovery
Sample Name	Lab Code	Notes	o-Terphenyl	n-Triacontane
Shipping Dock Well	K9902936-001		79	83
West Parking Lot	K9902936-002		74	77
Method Blank	K990515-WB		81	83

CAS Acceptance Limits:

50-150

50-150

Approved By: MManthe

Date: 5/24/99

SUR2/061197p 02936PHC1L1 - SUR V19/99

ACKNOWLEDGMENT OF RECEIPT OF SAMPLES

TO:

Jim Mantell Longview Fibre Company 5901 E. Marginai Way S. Seattle, WA 98124

FROM:

Ed Wallace, Project Chemist Columbia Analytical Services, Inc.

This is to inform you that the samples received for testing have been assigned CAS Service Request number K2007510. Please verify information and notify me of any corrections.

A copy of our work order is attached. If you have any questions regarding the status of this work, please call me at (360) 577-7222.

Thank you for your business.

Number of pages Z - (including cover sheet).

Columbia Analytical Services, Inc. 1317 South 13th Avenue P.O. Box 479 Kelso, WA 98626 (360) 577-7222 (360) 636-1068 - FAX

During the next few months, you may notice format changes in some of the documents you receive from CAS.
 However, these documents should contain the same information you are accustomed to receiving.

LFCo. Lab Service Memorandum

No. 11058

Date: 28 Sept. 2000

Subject:	Seattle Boxplant Sludge						
Keywords:	Lead, zinc, TCLP, total metals						
Requested by: Steve Frase Performed by: Colleen Roule							
Source and Descri A sample of press was sent in fo	l solid sludge, dated	9/21/00, from Seaule F	Boxplant water treatment				
Total recovi	Is and Procedures: erable metals were comethod No. 1311.		OSH method. TCLP was				
Results:							

Sample	% by Weight	TCLP ppm
Lead	()	0
Zinc	()	1.8

Columbia Amalytical Services -- Kelse INTERNAL LOGIN SUMMARY REPORT (1101) 27-SEP-00 10:37

		27·s	EP-00 10:37	
Service Feq. No. Client No. Client Name	#2007#10/2015	Oto act Noise	Seattle Box Flant (Groundwater)	Bottles: 2 - 500 ml Amber
Bill lo:	Longview Fibre-Southle Box Plant Attn: Accounts Payuble 5901 E. Marginal Way S. Septile, WK 58174	Report ja:	Lorinting to a number of the second of the s	
P.G. No. Lapped in By ISE Rum	LY039801 L LHAMM	Site 10 Project Chemist	1 100000000000000000000000000000000000	
COC Received Samples Submitted	Y 2G-SEP-NO		·	Storage: HERK A4
CA4 Samp No. Cl	ient Sumple No.	Matrix Collected Duebat	te F198315	
になる。これでは、 「125855	tth (Albertand) Robins (क्षेत्र) विकास के विकास है। co: Henk Ratiox.	or - Am erk (20) dec 1 dré Gaérés d'élès	1-00 1900 (1965) (1965) (1965) (1965) (1965) (1965) (1965) (1965) (1965) (1965) (1965) (1965) (1965) (1965) (1965)	\$3、\$\$\$1、\$2、\$2、\$2、\$2、\$4、\$4、\$4、\$2\$\$\$2\$\$\$3\$\$\$\$\$\$\$\$\$\$
				,
Samples Found To	Fie Hazirdous: NUNE_ ALL_ *SCME_	Pag	ge 1 of 1	Reviewed By:

ACKNOWLEDGMENT OF RECEIPT OF SAMPLES

TO:

Jim Mantell Longview Fibre Company 5901 E. Marginal Way S. Seattle, WA 98124

FROM:

Ed Wallace, Project Chemist Columbia Analytical Services, Inc.

This is to inform you that the samples received for testing have been assigned CAS Service Request number K2007510. Please verify information and notify me of any corrections.

A copy of our work order is attached. If you have any questions regarding the status of this work, please call me at (360) 577-7222.

Thank you for your business.

Number of pages - 2 - (including cover sheet).

Columbia Analytical Services, Inc. 1317 South 13th Avenue P.O. Box 479 Kelso, WA 98626 (360) 577-7222 (360) 636-1068 - FAX

^{*} During the next few months, you may notice formst changes in some of the documents you receive from CAS.

However, these documents should combin the same information you are accustomed to receiving.

Columbia Analytical Services -- Ke.so INTERNAL LOGIN SLYBUARY REPORT ((101) 27-SEP-00 10:37

Clien: No. Clien: Name	EFOOTSICEED TO THE SECOND STATES OF THE SECOND SEC	Pr	oject No. Oject Name	Smattle Bot Plant (Groundwater)	Bottles: 2 - 500 ml Amber
BIL To:	Longview Fibre-Seattle Box Plant Atm: Accounts Payable 5501 E. Marginal Way S. Seattle, WA 1781:24	Re	port To:	Undivine Ethre tompany in all the state of the dimension of the state	
P.O. No. Logged to By LSR Num	LV03980° L		te ID oject Chamist	EBEN NIPO ESTAND 中国内部通常工作中的国际中国。	
DDC Received Semples Submitted	Y 1 24-SIP-100				Storage: HERK A4
CAS Samp No. Ct	ent Samp.e No.	Matrix Co	lested DueDate	f (980 15	
k2007510-001 Ne: k2007510-0087: Ne: Comments:	st Parking Lot 第6章 地域中最初的KS 20052(42)等等等等。	MAYER 21 18 MAYER 221	SEP-00 10-001-0 SEP-00110-00E-0	20 19年後,1957年 - 1958年 - 19 1958年 - 1958年	或行為主義。#於1980年2月2日的新華·大陸第四次中國。中國公
125855	cc: Yenk Rakoz.				
				•	
					·
·					
·					
,					

Page 1 of T

LFC002301



June 2, 2000

Service Request No: K2003723

Dave Mendenhall Longview Fibre Company 300 Fibre Way P.O. Box 639 Longview, WA 98632

Seattle Box Plant (GW Samples)

Dear Dave:

Enclosed are the results of the sample(s) submitted to our laboratory on May 18, 2000. For your reference, these analyses have been assigned our service request number K2003723.

All analyses were performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the samples analyzed.

Please call if you have any questions. My extension is 3291.

Respectfully submitted,

Columbia Analytical Services, Inc.

Wallace

Ed Wallace

Project Chemist

EW/dj

Acronyms

ASTM American Society for Testing and Materials

A2LA American Association for Laboratory Accreditation

CARB California Air Resources Board

CAS Number Chemical Abstract Service registry Number

CFC Chlorofluorocarbon
CFU Colony-Forming Unit

DEC Department of Environmental Conservation

DEQ Department of Environmental Quality

DHS Department of Health Services

DOE Department of Ecology
DOH Department of Health

EPA U. S. Environmental Protection Agency

ELAP Environmental Laboratory Accreditation Program

GC Gas Chromatography

GC/MS Gas Chromatography/Mass Spectrometry

LUFT Leaking Underground Fuel Tank

M Modified

MCL Maximum Contaminant Level is the highest permissible concentration of a substance

allowed in drinking water as established by the USEPA.

MDL Method Detection Limit
MPN Most Probable Number
MRL Method Reporting Limit

NA Not Applicable
NC Not Calculated

NCASI National Council of the Paper Industry for Air and Stream Improvement

ND Not Detected

NIOSH National Institute for Occupational Safety and Health

PQL Practical Quantitation Limit

RCRA Resource Conservation and Recovery Act

SIM Selected Ion Monitoring

TPH Total Petroleum Hydrocarbons

tr Trace level is the concentration of an analyte that is less than the PQL but greater

than or equal to the MDL.

Inorganic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- i The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.

Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- B The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- E The reported value is estimated because of the presence of matrix interference.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance
- i The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.
- * The duplicate analysis not within control limits.
- + The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

- The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- i The MRL/MDL has been elevated due to a matrix interference.
- Y The chromatogram resembles a petroleum product but does not match the calibration standard.
- Z The chromatogram does not resemble a petroleum product.
- X See case narrative.

Analytical Report

Client:

Longview Fibre Company

Service Request: K2003723

Project:

Seattle Box Plant (GW Samples)

Date Collected: 5/12/00

Sample Matrix:

Water

Date Received: 5/18/00

Semivolatile Petroleum Products Northwest TPH-Dx

Sample Name:

West Parking Lot

Units: ug/L (ppb)

Lab Code:

Test Notes:

K2003723-001

Basis: NA

Analyte	Prep Method	Analysis Method	MIRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Mineral Spirits	EPA 3510C	NWTPH-Dx	250	1	5/19/00	5/22/00	ND	
Jet Fuel as Jet A	EPA 3510C	NWTPH-Dx	250	1	5/19/00	5/22/00	ND	
Kerosene	EPA 3510C	NWTPH-Dx	250	1	5/19/00	5/22/00	ND	
Diesel	EPA 3510C	NWTPH-Dx	2500	10	5/19/00	5/23/00	77000	i
Heavy Fuel Oil	EPA 3510C	NWTPH-Dx	500	1	5/19/00	5/22/00	ND	
Lube Oil	EPA 3510C	NWTPH-Dx	500	1	5/19/00	5/22/00	3900	
PHC as Diesel	EPA 3510C	NWTPH-Dx	500	1	5/19/00	5/22/00	ND	
Non-PHC as Diesel	EPA 3510C	NWTPH-Dx	500	1	5/19/00	5/22/00	ND	

PHC as Diesel Fuel: Non-PHC as Diesel:

Extractable Petroleum Hydrocarbon fingerprint not matching any of the target analytes. Non-Petroleum Hydrocarbon components eluting in the extractable range of n-C8 - n-C44.

Approved By: _

1522/020597p

Date: **4/4/00**

03723PHC.MEI - 1 6/2/00

Analytical Report

Client:

Longview Fibre Company

Project:

Seattle Box Plant (GW Samples)

Service Request: K2003723

Sample Matrix:

Water

Date Collected: 5/12/00 **Date Received:** 5/18/00

Semivolatile Petroleum Products Northwest TPH-Dx

Sample Name:

me:

North Shipping Dock K2003723-002 Units: ug/L (ppb)

Lab Code:

ne:

Basis: NA

Test Notes:

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Mineral Spirits	EPA 3510C	NWTPH-Dx	250	. 1	5/19/00	5/22/00	ND	
Jet Fuel as Jet A	EPA 3510C	NWTPH-Dx	250	1	5/19/00	5/22/00	ND	
Kerosene	EPA 3510C	NWTPH-Dx	250	1	5/19/00	5/22/00	ND	
Diesel	EPA 3510C	NWTPH-Dx	250	1	5/19/00	5/22/00	3000	
Heavy Fuel Oil	EPA 3510C	NWTPH-Dx	500	1	5/19/00	5/22/00	ND	
Lube Oil	EPA 3510C	NWTPH-Dx	500	1	5/19/00	5/22/00	980	
PHC as Diesel	EPA 3510C	NWTPH-Dx	500	1	5/19/00	5/22/00	ND	
Non-PHC as Diesel	EPA 3510C	NWTPH-Dx	500	1	5/19/00	5/22/00	ND	

PHC as Diesel Fuel: Non-PHC as Diesel: Extractable Petroleum Hydrocarbon fingerprint not matching any of the target analytes. Non-Petroleum Hydrocarbon components eluting in the extractable range of n-C8 - n-C44.

Approved By:

1S22/020597p

03723PHC.ME1 - 2 6/2/00

ate: 6/2/00

00005 Page No.:

Analytical Report

Client:

Longview Fibre Company

Project:

Seattle Box Plant (GW Samples)

Service Request: K2003723

Date Collected: NA

Sample Matrix:

Water

Date Received: NA

Semivolatile Petroleum Products Northwest TPH-Dx

Sample Name:

Method Blank

Units: ug/L (ppb)

Lab Code:

K000519-WB

Basis: NA

Test Notes:

Analyte	· Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Mineral Spirits	EPA 3510C	NWTPH-Dx	250	1	5/19/00	5/22/00	ND	
Jet Fuel as Jet A	EPA 3510C	NWTPH-Dx	250	ł	5/19/00	5/22/00	ND	
Kerosene	EPA 3510C	NWTPH-Dx	250	1	5/19/00	5/22/00	ND	
Diesel	EPA 3510C	NWTPH-Dx	250	1	5/19/00	5/22/00	ND	
Heavy Fuel Oil	EPA 3510C	NWTPH-Dx	500	1	5/19/00	5/22/00	ND	
Lube Oil	EPA 3510C	NWTPH-Dx	500	1	5/19/00	5/22/00	ND	
PHC as Diesel	EPA 3510C	NWTPH-Dx	500	1	5/19/00	5/22/00	ND	
Non-PHC as Diesel	EPA 3510C	NWTPH-Dx	500	1	5/19/00	5/22/00	ND	

03723PHC.MEI - MBlank 6/2/00

1\$22/020597p

QA/QC Report

Client:

Longview Fibre Company

Project:

Scattle Box Plant (GW Samples)

Sample Matrix:

Water

Service Request: K2003723

Date Collected: 5/12/00

Date Received: 5/18/00

Date Extracted: 5/19/00

Date Analyzed: 5/22/00

Surrogate Recovery Summary Northwest TPH-Dx

Prep Method:

EPA 3510C

Analysis Method: NWTPH-Dx

Units: PERCENT

Basis: NA

		Test	Percent Recovery				
Sample Name	Lab Code	Notes	o-Terphenyl	n-Triacontane			
West Parking Lot	K2003723-001		62	105			
North Shipping Dock	K2003723-002		59	62			
Method Blank	K000519-WB		73	74			

CAS Acceptance Limits:

50-150

50-150

Approved By:	p	Date: 4/2/05	00007
UR.2/06[197p			

Columbia Analytical	l				Cł	1AI	IN	OF	C	บร	STC)D'	Υ								SR	#:_K	ω	<u>587</u>	123	,	` ن
Services INC.	. 13	317 South 13	th Ave. • Ke	iso, WA 9										-1068		Р	AGE		<u></u>	_OF	1	<u>. </u>	_CO	C _. #_			
PROJECT NUMBER			\\ \\ \	2W Si	imple				J. C.	7	T		7/	8151AC	7	7/	7	7			Ž. /	2005	7/	//			
	Manto F.bre			<u>. </u>		CONTAINERS	Sanics by GC/MS	1 Sept. 1 Sept	(MO) 0051 []	\square	## 1684 17 1684	1064	Cides C	2/8	SIMO		r Dissolved Blates	Hex-Chrom C	88 1. P. T. P. T.	Total P. TKW	40x 1650			/,		80000	
PHONE #		FAX #			NUMBER	> 1 a	15 0 18 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5		Fuel Find Pes	NW-HOLD SOFT	413.7 G 478 408.8 478		Tilogo Ciri	PAHS THE	GCMS.SM		Cyanide 7				מ'					: :	i J
SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	/ 😤	15	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	100	10 4	10 4	14.8	105	/ 0	\ <u>@</u> \	120	15	<u> </u>	/≥	/~	/_	<u> </u>	/ ,	<u> </u>	/ REA	MARKS	
west Parking lot	5/12	3:00	<u> </u>	ļ!	ĻĻ		<u> </u> '	Ŋ.	 	<u> </u>						\vdash				 	ļ'	ļ		 	 		r v
North Shipp. I dd	5/12	3:30	2				<u> </u>	1	<u> </u>	<u> </u>										ļ		<u> </u>				·	
							 /		└ ─'			 				\vdash				<u> </u>	ļ	<u> </u>		ļ	ļ		· <u>·</u>
	ļ		ļ				'	 	\bigsqcup	<u> </u>	\sqcup			\square						<u> </u>		ļ			ļ		· <u>:</u>
			<u> </u>				<u> </u>	<u> </u>	<u> </u>	\bigsqcup'	igsquare									<u> </u>		<u> </u>		'	<u> </u>	·	
		<u> </u>					<u> </u>	<u>'</u>		<u> </u>	$oxed{oxed}$]								·	L					
																										. :	į,
							['	<u>['</u>					[]														ξ
							['			['																• .	
																										- 1-2	ž
REPORT REQUIREME	FNTS		DICE INFOR	IOITAMI	N	Circle	e which	metals	are to	be an	alyzed:					·			L					·		- ` .	_
I. Routine Report: M		P.O. # _ Bill To:				Tat	tal Metr	als: Al	As	Sb B	а Ве	ВСа	a Cd	Co (Or Cu	, Fe	Pb M	ig M	n Mo) Ni	K Ag	, Na	Se S	ir Ti	Sn V	zn Hg	
Blank, Surrogate,						Dissol	ived Me	tals: A	i As	Sb E	за Ве	B Ca	a Cd	Co	Cr Cı) Fe	Pb N	Ag M	in Mo	ıN c	K Aç	j Na	Se S	3r Tl	Sn V	Zn Hg	J
required						•IND	ICATE	STA	TE HY	DRO	CARBO	ON PF	ROCE	DURE	: AF	CA	WI	NO	RHTW	VEST	уотн	ER:_		_(CIP	ICLE ON	VE)	_
II. Report Dup., MS, required	MSD as	i	ROUND REC		ENTS	SPE	CIAL II	NSTR	UCTIC	ONS/C	СОММ	ENTS	3 :	A	1	,	41	- (1			7				1
III. Data Validation Re	eport	24 I		48 hr.	ı	Se	للمنا	Br	غىرالم	3 1	40	DA	NE	/h=	どのも	سالما	U.	L	20	(4	My	ا،حب	')				<u>:</u>
(includes all raw d	•		ndard (10-15	working	days)	1																					
IV. CLP Deliverable F	hoqef	Pro	ovide FAX Re	sults	- 1	l																				j	·.
V. EDD				4 D-1-																							
, RELINQUISH	ED DV.	He	quested Rep	ort Date		<u> </u>																				- 1	_
1 L. L. F.W	5/0		1//0		RECE	EIVED	BY:		L 11.72				REL	LINQU	ISHE) BY:						RE	:CEIVI	ED BY	:		
Signature	Date/Time	•	Fign:	alnue z	N N	-13	ale/fir	ne T	<u>712</u>	3	Sigr	nature	,		- Da	te/Tim	10			Signa	ature			Date	/Time	<u> </u>	
Printed Name	Firm		一学》	o Name)bodi	- f	irm.	عاد	ĬΧ	'	Prin	ted N	ame		Fir	m				Printe	ed Nar	me		Firm			

Printed Name

Firm



July 11, 1996

Service Request No.: K9603751

Sonny Bivins Longview Fibre Company 5901 E Marginal Way Seattle, WA 98124

Dear Sonny:

Enclosed are the results of the sample(s) submitted to our laboratory on June 25, 1996. For your reference, these analyses have been assigned our service request number K9603751.

All analyses were performed consistent with our laboratory's quality assurance program. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the samples analyzed.

Please call if you have any questions. My extension is 230.

Respectfully submitted,

Columbia Analytical Services, Inc.

Eileen M. Arnold Project Chemist

EMA/ll

Page 1 of ____

cc:

Dave Mendenhall, Fibre/Longview Hank Rakoz, Fibre/Longview

Acronyms

ASTM American Society for Testing and Materials

A2LA American Association for Laboratory Accreditation

CARB California Air Resources Board

CAS Number Chemical Abstract Service registry Number

CFC Chlorofluorocarbon
CFU Colony-Forming Unit

DEC Department of Environmental Conservation

DEQ Department of Environmental Quality

DHS Department of Health Services

DOE Department of Ecology
DOH Department of Health

EPA U. S. Environmental Protection Agency

ELAP Environmental Laboratory Accreditation Program

GC Gas Chromatography

GC/MS Gas Chromatography/Mass Spectrometry

J Estimated concentration. The value is less than the method reporting limit, but

greater than the method detection limit.

LUFT Leaking Underground Fuel Tank

M Modified

MCL Maximum Contaminant Level is the highest permissible concentration of a

substance allowed in drinking water as established by the USEPA.

MDL Method Detection Limit
MPN Most Probable Number
MRL Method Reporting Limit

NA Not Applicable
NAN Not Analyzed
NC Not Calculated

NCASI National Council of the Paper Industry for Air and Stream Improvement

ND Not Detected at or above the MRL

NIOSH National Institute for Occupational Safety and Health

PQL Practical Quantitation Limit

RCRA Resource Conservation and Recovery Act

SIM Selected Ion Monitoring

TPH Total Petroleum Hydrocarbons

tr Trace level is the concentration of an analyte that is less than the PQL but greater

than or equal to the MDL.

Analytical Report

Client:

Longview Fibre Company

Project: Sample Matrix: NA Water

Service Request: K9603751

Date Collected: 6/24/96

Date Received: 6/25/96

Date Extracted: NA

Inorganic Parameters Units: mg/L (ppm)

	Analyte: EPA Method: Method Reporting Limit: Date Analyzed:	pH (units) 150.1 - 6/25/96	Biochemical Oxygen Demand (5- Day) 405.1 4 6/26/96	Chemical Oxygen Demand (COD) 410.2 5 7/3/96	Solids, Total Suspended (TSS) 160.2 5 6/28/96	Carbon, Total Organic (TOC) 415.1 0.5 7/4/96
Sample Name	Lab Code					
Stormwater Method Blank	K9603751-001 K9603751-MB	6.72 -	7 -	86 ND	ND ND	27.9 ND

Approved By:

5A5M/120294

03751WET.LJ1 - STests 7/9/96

Analytical Report

Client:

Longview Fibre Company

Project:

NA

Service Request: K9603751 Date Collected: 6/24/96

Date Received: 6/25/96 Date Extracted: 7/1/96

Sample Matrix: Water

Total Metals Units: µg/L (ppb)

		Sample Name: Lab Code:	Stormwater K9603751-001	Method Blank K9603751-MB
		Date Analyzed:	7/2/96	7/2/96
	EPA			
Analyte	Method	MRL		
Arsenic	7060	5	ND	ND
Barium	6010A	5	76	ND
Cadmium	6010A	4	ND	ND
Chromium	6010A	5	ND	ND
Lead	7421	2	ND	ND
Mercury	7471	0.5	ND	ND
Selenium	7740	5	ND	ND
Silver	6010A	10	ND	ND

Approved By:

3S30EPA/102094 037511CP.AM1 - Sample 7/9/96

Analytical Report

Client:

Longview Fibre Company

Project:

Sample Matrix: Water

Service Request: K9603751

Date Collected: 6/24/96

Date Received: 6/25/96

Date Extracted: 7/1/96 Date Analyzed: 7/1/96

Oil and Grease EPA Method 413.1 Units: mg/L (ppm)

Sample Name	Lab Code	. MRL	Result
Stormwater	K9603751-001	5	ND
Method Blank	K960701-MB	5	ND

Approved By:

1AMRL/102594 03751PHC GB1 - 413w 7/8/96

Page No 00005

olumbia Apolytical
Analytical
Services

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

Services "	317 South 13th Ave. • Kelso, WA 98626		222 • (804	0) 695-722	22 • FAX (360) 636	-1068	DATE				PAG	E		OF_131
PROJECT NAME LONG VIEW	Fibre Co. (200) 762	7170						NALY	sis	REQ	UEST	ED			
PROJECT MANAGER Sonny	1.	NUMBER OF CONTAINERS	Baselheu/cid Ogani	Sall 18 8 1	Pesificiaes P 625027 Volatiles	n Hydrocarbons	X 5030/8015/8020	WATA COST OF THE C	O Semi Peri	dissolved) Herbo	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	70(a)- P, F, B,	1.00 Septiment 100 Septiment 1	65040	
SAMPLERS SIGNATURE	As Col	BEH OF	S 625/6	GC 38116 OG 3811 CS OG 3811 CS OG S O		Sas A O E	日 第 5 5 5 6 7 6 7 7 7 8 7 7 8 7 7 8 7 8 7 8 8 8 8 8 8 8 8 8 8 8 8 8		S (1017)		\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		3000 850 850 850 850 850 850 850 850 850		
SAMPLE I.D. DATE		MPLE TRIX						1	Ketal Lister		150/15 10/15		3/_	\angle	REMARKS
															Sample labeled Stormwater 6/24
										-					
RELINQUISHED BY: Signature Comparing Printed Name Low View Fibre 6-24-16 Date/Time	Printed Name Date/Time	Standard Provide V Results	48 hr48 hr (10-15 workin erbal Prelimin AX preliminar	5 day ng days) nary	1. Ro 11. Re Mi ch III. D	utine Repo port (includ SD, as requ arged as s ata Validati ncludes All	les DUP.M ired, may t amples)	S. P.O.#			DRMATIO		Shippir Conditi	ng VIA: _ ng #: lion:	AMPLE RECEIPT:
RELINQUISHED BY: Signature & Colini Printed Name First 2446 Date/Time	RECEIVED BY: Signature Printed Name Firm Date/Time	SPECIAL IN	ISTRUCT	TIONS/CO	OMMENT	S:									



Longview Fibre Company

Value-Added Products . Sustainable Forestry

March 4, 2003

Mr. John Bails Washington State Department of Ecology Northwest Regional Office 3190-160th Ave. SE Bellevue, WA 98008

RE: Longview Fibre Company, Seattle Box Plant, 5901 E. Marginal Way S, Seattle Ecology LUST #3449

Dear Mr. Bails:

Longview Fibre Company received a letter from Mr. Joseph Crossland of Ecology's Toxics Cleanup Program on February 26, 2003. This letter was regarding the status of our company's clean up effort at our facility in Seattle, Washington. I'm pleased to tell you that we have continued to monitor the groundwater at this location and am providing you with copies of the last 3 years of data. Passive remediation has continued at this location since the last active remediation occurred in February of 1996.

This has been a long process and we would appreciate a change in the status of the cleanup. A "No Further Action" status or even a change in the required amount of sampling and testing would be greatly appreciated. We do not intend to do any further removal of soils as any contamination that still exists is under the building and inaccessible.

Any comments or questions should be directed to me. We look forward to your reevaluation of the site.

Sincerely,

David N. Mendenhall

Sr. Water Quality Engineer

Longview Fibre Company

Longview Washington

c: Tom Craig, LV-Seattle

				ng well Resul	ts
i_			PPM)	<u> </u>	
	Location	Gasoline	Diesel!	Lube Oil	
Date				(Residual)	
5/1/1999	Loading Dock	NR	1.36	2.53	
	West Parking Lot	NR	5.94	0.98	
3/1/2000	Loading Dock	NR.	4.00:	ND:	
	West Parking Lot	NRI	160.00	10.00	
6/01/2000	!Loading Dock	NRI	3.00	0.98)	
	West Parking Lot	NR:	77.00	3.00!	
9/01/2000 .	Loading Dock	NR!	ND:	· ND:	
	West Parking lot	NR.	14.00	1.30	
11/1/2000	Loading Dock	0.56	2.70	1.50	
	West Parking Lot	ND	130.00	9.70	
2/01/2001 ;	Loading Dock	0.20	3.30	1.40	
	West Parking Lot	14.00	67.00	7.50	
5/01/2001 :	Loading Dock	ND:	1.90	0.93	
	West Parking lot	6.70;	39.00	4.20	
9/01/2001	Loading Dock	0.20	3.10	2.00	
	West Parking Lot	5.60	280.00	2.60	
12/1/2001	Loading Dock	ND	2.10!	3.00	
<u> </u>	West Parking lot	14.00	92.00	8.90	
2/1/2002	N. Loading Dock	NR:	2.20	1.601	
	West Parking lot	NR.	52.0	6.40	_
5/1/2002	N. Loading Dock	NR	4.50	2.00	
	West Parking lot	NR'	35.0	4.30	
7/01/2002	N. Loading Dock	NR	2.0	0.96	_
	West Parking Lot	NR	66.0	8.60	
12/1/2002 :	,N. Loading Dock	NR!	4.1	2.00	
	!West Parking Lot	NR	41.0	5.80	

ACKNOWLEDGMENT OF RECEIPT OF SAMPLES

TO:

Jim Mantell Longview Fibre Company 5901 E. Marginal Way S. Seattle, WA 98124

FROM:

Ed Wallace, Project Chemist Columbia Analytical Services, Inc.

This is to inform you that the samples received for testing have been assigned CAS Service Request number K2209290. Please verify information and notify me of any corrections.

A copy of our work order is attached. If you have any questions regarding the status of this work, please call me at (360) 577-7222.

Thank you for your business.

Number of pages - 2 (including cover sheet).

Columbia Analytical Services, Inc. 1317 South 13th Avenue P.O. Box 479 Kelso, WA 98626 (360) 577-7222 (360) 636-1068 - FAX

^{*} During the next few months, you may notice format changes in some of the documents you receive from CAS. However, these documents should contain the same information you are accustomed to receiving.

ACKNOWLEDGMENT OF RECEIPT OF SAMPLES

TO:

Longview Fibre Company
5901 E. Marginal Way S.
Seattle, WA 98124

FROM:

Ed Wallace, Project Chemist Columbia Analytical Services, Inc.

This is to inform you that the samples received for testing have been assigned CAS Service Request number K2107247. Please verify information and notify me of any corrections.

A copy of our work order is attached. If you have any questions regarding the status of this work, please call me at (360) 577-7222.

Thank you for your business.

Number of pages - Z - (including cover sheet).

Columbia Analytical Services, Inc.
1317 South 13th Avenue
P.O. Box 479
Kelso, WA 98626
(360) 577-7222
(360) 636-1068 - FAX

^{*} During the next few months, you may notice format changes in some of the documents you receive from CAS. However, these documents should contain the same information you are accustomed to receiving.

Samples Found To Be Mazardous: HOME__ ALL__ *SOME_

Columbia Analytical Services -- Kelso INTERNAL LOGIN SUMMARY REPORT (1101)

!					7-01 11:55	•
!	Service Req. No Client No. Client Name	o - 62107247:35555553333333333333334333333 125855 120001:0016555555553333333333333333333333333333		Project No. Project Name	Longview Fibre Seattle	Bottles: 2 - 500 ml Amber
	Bill Ta:	Longview Fibre-Seattle Box Plant Attn: Accounts Payable 5901 E. Marginal Way S. Seattle, WA 98124		Report To:	Londview Fibre Company State C	
	P.D. No. Logged in By 15R Num	LV039801 L FADAIR		Site ID Project Chemist	Ed. Wall atternation (1997)	
	COC Received Samples Submit	red 02-001-01			Simple the Property of the Control o	Storage: SAM 50
	CAS Samp No. (Client Sample No.	Metrix	Collected D	ueDate F198015	
	K2107247-001	Hest Parking Lot Borth Shipping Deck	WATER	15:45 28-SEP-01 16	-OCT-01 I	
	Comments:	ibarturanti boʻling. Mack (1951)	HE WALLES	:10:00/XB/25h/fn1::10	tual pulkingo. Italia sater zana isana inantini (740 kilan kanana	######################################
	125855	cc: Hank Rakoz.				
				•		
						,
2						
Ď					•	
90,100,000					-	
יי						
0					•	
7						

Reviewed By:_

Subject: [Fwd: Groundwater testing]

Date: Mon, 14 Feb 2000 09:01:18 -0800

From: "Craig, Tom D." <tdcraig@longfibre.com> Internal To: "Rebecca J. Poupore" <rjpoupore@longfibre.com>

copy Jim and me.

Subject: Groundwater testing

Date: Fri, 11 Feb 2000 14:45:31 -0800

From: "Mendenhall, Dave N." < dnmendenhall@longfibre.com>

To: "Craig, Tom D." <tdcraig@longfibre.com>

Tom-

Please pass this along to Jim. CAS has no record of samples sent last September. I have had them set it up to send you quarterly sample bottles for samples. There should only be two sample bottles per test, one for each well. Send the full bottles directly to me and I will see that they get to CAS. You should get your first set of bottles for this year shortly. We need to get at least another years worth of quarterly samples before we can ask the agencies to stop requiring these tests. Please do your best at getting the samples taken and sent to me as soon as possible after you receive the empty bottles.

Thanks for your help and cooperation on this. If you have any questions please call.

Dave

ACKNOWLEDGMENT OF RECEIPT OF SAMPLES

TO:

Jim Mantell Longview Fibre Company 5901 E. Marginal Way S. Seattle, WA 98124

FROM:

Ed Wallace, Project Chemist Columbia Analytical Services, Inc.

This is to inform you that the samples received for testing have been assigned CAS Service Request number K2301907. Please verify information and notify me of any corrections.

A copy of our work order is attached. If you have any questions regarding the status of this work, please call me at (360) 577-7222.

Thank you for your business.

Number of pages - ___ (including cover sheet).

Columbia Analytical Services, Inc. 1317 South 13th Avenue P.O. Box 479 Kelso, WA 98626 (360) 577-7222 (360) 636-1068 - FAX

^{*} During the next few months, you may notice format changes in some of the documents you receive from CAS.

However, these documents should contain the same information you are accustomed to receiving.

Columbia Analytical Services -- Kelso INTERNAL LOGIN SUMMARY REPORT (1101) IB-MAR-03 12:40

Service Req. No. Client No. Client Name	KZS01907	Project Ko. Project Mame	Scattle Groundwater	Bottles: 2 - 500 ml Amber
Bill To:	Longview Fibre-Seattle Box Plant Attn: Accounts Payable 5901 E. Marginal Way S. Seattle, WA 98124	Report To:	Longview Elbre Company Jim Mantell 5901 E. Marginel Way S. Seattle, WA 98124	
P.O. Na. Logged In By ISR Numa	LV040784 L APAYMTER	Site ID Project Chem	ist Ed-Wallece	880
COC Received Samples Submitted	ү 13-жай-03			Storage: SAMSON 46
CAS Samp No. Cli	ent Sample No.	Matrix Collected	DueDate DX-NNTPH	
K2301907-001 Ves K2301907-002 Ves	t Parking Lot rik Goading Dock:	WATER 00:00 10-MAR-0	3 27-MAR-03 1 3 27-MAR-03:	ienioren bekantarren erraken e
Comments:				
125855	cc: Henk Rakoz.			
			•	
Some Found To	Be Hazandous: KOME ALL *SONE		Page 1 of 1	Reviewed By:

LFC002323



April 16, 2003

Service Request No: K2301907

Jim Mantell Longview Fibre Company 5901 E. Marginal Way S. Seattle, WA 98124

RE: Seattle Groundwater

Dear Jim:

Enclosed are the results of the sample(s) submitted to our laboratory on March 13, 2003. For your reference, these analyses have been assigned our service request number K2301907.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAC standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3291.

Respectfully submitted,

Columbia Analytical Services, Inc.

Ed Wallace Project Chemist

EW/jeb

Page 1 of

cc:

Dave Mendenhall, Longview Fibre Hank Rakoz, Longview Fibre

Acronyms

ASTM American Society for Testing and Materials

A2LA American Association for Laboratory Accreditation

CARB California Air Resources Board

CAS Number Chemical Abstract Service registry Number

CFC Chlorofluorocarbon
CFU Colony-Forming Unit

DEC Department of Environmental Conservation

DEQ Department of Environmental Quality

DHS Department of Health Services

DOE Department of Ecology
DOH Department of Health

EPA U. S. Environmental Protection Agency

ELAP Environmental Laboratory Accreditation Program

GC Gas Chromatography

GC/MS Gas Chromatography/Mass Spectrometry

LUFT Leaking Underground Fuel Tank

M Modified

MCL Maximum Contaminant Level is the highest permissible concentration of a

substance allowed in drinking water as established by the USEPA.

MDL Method Detection Limit
MPN Most Probable Number
MRL Method Reporting Limit

NA Not Applicable
NC Not Calculated

NCASI National Council of the Paper Industry for Air and Stream Improvement

ND Not Detected

NIOSH National Institute for Occupational Safety and Health

PQL Practical Quantitation Limit

RCRA Resource Conservation and Recovery Act

SIM Selected Ion Monitoring

TPH Total Petroleum Hydrocarbons

tr Trace level is the concentration of an analyte that is less than the PQL but greater

than or equal to the MDL.

Inorganic Data Qualifiers

- . The result is an outlier. See case parrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- i The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.

Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- B The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
- i The MRL/MDL has been elevated due to a matrix interference.
- X See case narrative.
- * The duplicate analysis not within control limits. See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

- . The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- i The MRL/MDL has been elevated due to a chromatographic interference.
- X See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y

 The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

Client:

Longview Fibre Company

Project: Seattle Groundwater

Sample Matrix: Water

Service Request No.:

K2301907

Date Received:

3/13/03

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier I data deliverables. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

samples were received for analysis at Columbia Analytical Services on 3/13/03. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were upon receipt at the laboratory.

Diesel Range and Residual Range Organics by NWTPH-Dx

Surrogate Exceptions:

The lower control criterion was exceeded for surrogates o-Terphenyl and n-Triacontane in sample North Loading Dock. A small portion of the sample extract was lost during the sample preparation. A re-extraction was not performed because insufficient sample was available. Sample reanalysis produced similar results. The results for this sample were not reported. The client was notified and will re-sample. No further corrective action was possible.

Approved by CMW Date 4/16/03

Analytical Results

Client:

Longview Fibre Company

Project:

Seattle Groundwater

Service Request: K2301907

Date Collected: 03/10/2003

Sample Matrix:

Water

Date Received: 03/13/2003

Diesel and Residual Range Organics

Sample Name:

West Parking Lot

Lab Code:

K2301907-001

Units: ug/L Basis: NA

Extraction Method:

EPA 3510C

Analysis Method:

NWTPH-Dx

Level: Low

Analyte Name
Diesel Range Organics (DRO)
Residual Range Organics (RRO)

Result Q	MRL
6200 Y	250
1100 O	500

Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1	03/17/03	03/19/03	KWG0303416	
1	03/17/03	03/19/03	KWG0303416	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Terphenyl	87	50-150	03/19/03	Acceptable
n-Triacontane	88	50-150	03/19/03	Acceptable

00005

Printed: 03/25/2003 12:41:43

U \Stealth\Crystal.rpt\Formlm.rpt

Merged

Form 1A - Organic

RR25303 SuperSet Reference:

Page

Analytical Results

Client:

Longview Fibre Company

Project: Sample Matrix: Seattle Groundwater

Water

Service Request: K2301907

Date Collected: NA

Date Received: NA

Diesel and Residual Range Organics

Sample Name: Lab Code:

Method Blank

Units: ug/L Basis: NA

Extraction Method: EPA 3510C

KWG0303416-4

Level: Low

Analysis Method:

NWTPH-Dx

			Dilution	Date	Date	Extraction	
Analyte Name	Result Q	MRL	Factor	Extracted	Analyzed	Lot	Note
Diesel Range Organics (DRO)	ND U	250	1	03/17/03	03/18/03	KWG0303416	
Residual Range Organics (RRO)	ND U	500	1	03/17/03	03/18/03	KWG0303416	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note	
o-Terphenyl	89	50-150	03/18/03	Acceptable	
n-Triacontane	92	50-150	03/18/03	Acceptable	

Comments:

00006

1 of 1

Printed: 03/25/2003 12:41:53

U \Stealth\Crystal_rpt\Form\m rpt

Merged

Form 1A - Organic

Page SuperSet Reference: RR25303

LFC002329

Columbia Analytica					Cł	IA	IN	OF	C	US	STO) D	Y								SR	#: <u></u> /	V-2	30	<u>, </u>	107
An Employee-Owned Company		17 South 13	th Ave. • Ke	lso, WA 9	8626	(360)	577-72	222 • ((800) 6	95-72	22x07	• FAX	(360)	836-10	68	F	PAGI	≣		OF			_ cc	C #_		<u> </u>
PROJECT NAME									7	7	\mathcal{T}	7	7 	10	7	7	7	7	7	7	7	7	7	7	\mathcal{T}^{-}	7 3
PROJECT NUMBER	1162	<u>GURDO</u>	<i>ن و د</i> ر			/	/,	, /	BIEXC	1	1886	12/	/ /	81514	′ /	′ ,	/ ,	/ /	\ % /	cs /	208	′ ,	/ ,	/ /	<i>'</i> /	' P
PROJECT MANAGER 4		1 -		MATRIX		一,			8	7	/3	Pesticion Congo	_/	7				MAS 80 01 80 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	(0) (0) (0) (0) (0) (0) (0) (0) (0) (0)	ž /	\ \[\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\					/
I COMPANY/ADDRESS	rm 1					-/ §	1 3	₹/		ैं।	_/§		يز) . پي	₹/₹	8/ _[]	7 /8	/.			\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	§ /					/
LONG-UIBO						/ \(\frac{1}{2}\)	Volatile 0 8270 1 8270 623	// \{	\$\\$\}	n/≅ 5	[] _I	/ 8		PAHS Terra C 151M		Cyani below) Dissolved	/ 5	/ # E			/	/		/	/	/
5901 K. N PHONE #	MAGI	MAL I	WAY 5	<u> </u>	#47	20-1	80 82	ار] ^{نِي} َّ				/ ર્ફ્		80	0/	9 ~ l	/ ₹	88	\$ S	η ₹	/ /	/	/ ,	/ /	,	/
206 - 762 - 77	70	206	767	2442	<u>.</u>	Ó / 🖁	§ & / .	<u> </u>	الم الم	98	\$ <u>#</u>				8370 _[]		σh) <u>E</u>	2/	/	_/			/	
James Signature	Me	utils			/ 4					¥/&	8/2	\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		\\ <u>\</u>) '\frac{1}{2}		ફું /ફું	(a) ≥	လို/ မ	§ /						
SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	7 <i>\$</i>	\\ \sigma_{\text{s}} \cdot \text{d}	₂ \30			\8\8\		2\g	18	∦ ₹	Set V) 3		≨\ <u>≨</u> _5			/	/	/	/	/ R	EMARKS
WAST PITEKINE W	3/10				1		ſ				PCB's HENGTHPH 16845	ſ					1	1								
	3/		 	_	١.	\vdash	 				 					┞	 	 	\vdash	╁─╴			 	 	 	
NOATH LEADINGPR	× 110		 	 	 '	 	╁	├─	├-	├	 		 	-		<u> </u>		}	 	├	-		\vdash	 	┼	
	 			<u> </u>	<u> </u>	├ ─	 		 -		 	 					 	 	ļ	├			<u> </u>	 	 	
- · · · · · · · · · · · · · · · · · · ·	<u> </u>			<u> </u>	<u> </u>	<u> </u>	<u> </u>		L		<u> </u>	ļ		L		L	<u> </u>	ļ		<u> </u>					<u> </u>	
	<u></u>				<u> </u>	<u>L</u>					<u> </u>		L				<u>L</u> _				<u> </u>		<u> </u>	<u> </u>	L_	
			[ĺ				İ					ĺ		1				ĺ		ĺ		
				† — — — — — — — — — — — — — — — — — — —	\vdash	<u> </u>					1	†		·		-		†			†		<u> </u>	<u> </u>	厂	
<u></u>	 		 	 	 	 	 	 -	├	╁	 -	 	-	 -	 	├─	 	┼	-	├	\vdash	┝╌	├──	 	 	
	ļ		 	├	├	├─-	├	-			├	├		├-			 	-	├	├	├	<u> </u>	-	├	┼	
	<u> </u>	15.154					<u> </u>	L	Щ.	<u> </u>	Щ.	L		<u> </u>	<u> </u>	L	<u> L'</u> _	1		L	<u> </u>	L	<u> </u>		Щ_	
REPORT REQUIREM	MENTS		DICE INFOR		N	Circl	e which	metals	are to	be an	alyzed:															
I. Routine Report:	Method					Тс	otal Met	als: Al	As	Sb E	ва Ве	ВС	Cd	Co	Or Cu	ı Fə	Pb	Mg N	In Mo	Ni o	K Ag	Na	Se s	Sr Tl	Sn \	V Žn Hg
Blank, Surrogate required	, as	\				Disso	olved Me	tals: A	l As	Sb E	3a Be	ВС	a Cd	Co	Cr C	u Fe	Pb	Mg N	ın M	o Ni	K Aç	Na	Se	Sr TI	Sn '	V Zn Hg
1	Menas						DICATE	STA	TE HY	/DRO	CARB	ON PI	ROCE	DURE	: AF	C C/	A W	NO	RHTV	VEST	ОТН	ER:_		(CII	RCLE	ONE)
II. Report Dup., MS required	o, MOD as	ļ.	ROUND RE		ENTS	SPE	CIALI																			
III. Data Validation I	Report	24 5 E		48 hr.		Į	51																			
(includes all raw			andard (10-15	5 workina	davs)		No	x. T	\mathcal{H}	20,	4017	سي	20	こべ	3	ن ر -		3								
IV. CLP Deliverable	Report		ovide FAX Re	_	,-!	1	W	257	· F	AR	Kin	· K	٠٠٠	3	-3	- 10	-0	3								
V. EDD																										
		1	equested Rep						· •																	
RELINQUIS	HED BY:	1/3/10/0	3	W)	REC	EIYED	BY:3	{ ^{[\$} /	05	_			RE	LINQL	JISHE	D BY	:					RI	ECEIV	ED B	f:	

Signature

Printed Name

Date/Time

Firm

RCOC #1 04/02

Date/Time

Signature Printed Name

Columbia Analytical Services Inc. Cooler Receipt And Preservation Form

	ens ling n	ien fibre	<u>'</u>		Work Order K2	23	170	
Cooler rec	eived on	3/14/1	and	l opened or	3/13/05	by	Aslac	K
		,						
1.	Were custody se If yes, how man			er? 				Y X
2.	Were seals intac	rt and signatu	re & date	correct?				X W
3.	Is the shipper's	airbill availat	le and fil	led? If no,	record airbill numbe	er:	 	_ (Y) N
4.	COC#							
	Temperature of	cooler(s) upo	n receipt	:	8.0			
-	Temperature Bla	ank:			No _			
5.	Were custody pa						,	Ø N
6.	Type of packing	material pre	sent	<u> </u>	moved yelpis	ul- mesh-	bmas	
7.	Did all bottles as	rrive in good	condition	ı (unbroken)?		y	N CK
8.	Were all bottle l	iabels comple	te (i.e. ar	alysis, pres	servation, etc.)?	,		Ø N
9.	Did all bottle lat	bels and tags	agree wit	h custody p	papers?			N CK
10.	Were the correc	t types of bot	tles used	for the test	s indicated?			Ø N
11.	Were all of the	preserved bot	tles recei	ved at the la	ab with the appropri	ate pH?		WY
12.	Were VOA vial	s checked for	absence	of air bubb	les, and if present, n	noted below?		YN
13.	Did the bottles of	originate from	CAS/K	or a branch	laboratory?			⊗ N
14.	Are CWA Micro	obiology sam	ples recei	ived with >	1/2 the 24 hr. hold ti	ime remaining fro	m collection?	YN
15.	Was Cl2/Res ne	gative?						YA
Erest 1 - 1	• .							
explain any	discrepancies:							
xpiain any	discrepancies:						· · · · · · · · · · · · · · · · · · ·	
	/ discrepancies:							
Explain any	discrepancies:				·			
RESOLUT			Ties +		· · · · · · · · · · · · · · · · · · ·		£	Jame 3/17/
RESOLUT		K to					É	ams 3/17/1
RESOLUT	ION:	K to	out of tem		Lot Number	Bottle Type	Rec'd out of	ams ≥/17/1
RESOLUT	ION: O	K to	out of tem	iperature:	Lot Number	Bottle Type		
RESOLUT	ION: O	K to	out of tem	iperature:	Lot Number	Bottle Type	Rec'd out of	
RESOLUT	ION: On required preservation Sample ID	K +v on or received Re	out of tem	iperature:	Lot Number	Bottle Type	Rec'd out of	
RESOLUT Samples that	ION: On required preservation Sample ID	K to	out of tem	iperature:	Lot Number	Bottle Type	Rec'd out of	
RESOLUT Samples that	ION: On required preservation Sample ID	K +v on or received Re	out of tem	iperature:	Lot Number	Bottle Type	Rec'd out of	
RESOLUT Samples that	ION: On required preservation Sample ID	K +v on or received Re	out of tem	iperature:	Lot Number	Bottle Type	Rec'd out of	
RESOLUT Samples that	ION: On required preservation Sample ID	non or received	out of tem	Volume	Lot Number	Bottle Type	Rec'd out of	
RESOLUT Samples that	ION: On required preservation Sample ID	non or received	agent 03 1003	Volume	Lot Number	Bottle Type	Rec'd out of	

CRFREV.DOC3/5/2003 0 0 3